SmartWire-DT

XV Series HMI-PLC with SmartWire-DT

Machine Mount (IP67) I/O Modules

9.1 SmartWire-DT In Panel and On Machine Wiring Solution

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Revision notes

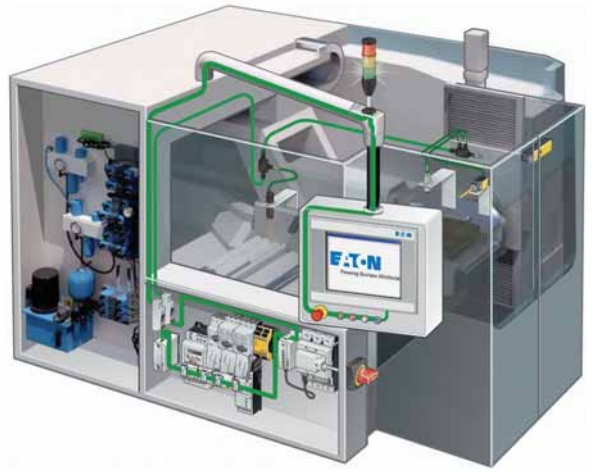
Volume 7—Logic Control, Operator Interface and Connectivity Solutions, CA08100008E

Tab 9—Connectivity Solutions

Revision date	Section	Change page(s)	Description
01/16/2017	9.1	V7-T9-26	Content edit
01/16/2017	9.1	V7-T9-65	Content edit

Powering Business Worldwide

SmartWire-DT In Panel and On Machine Wiring Solution



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System Overview

Product Description

The SmartWire-DT® In Panel and On Machine wiring system uses a single green cable inside a machine control cabinet and across the machine itself to connect motor starters, variable frequency drives, soft starters, pushbuttons, sensors, pneumatic and hydraulic valves, stacklights and other indicator lights.

Inside the machine control cabinet the continuous SmartWire-DT green cable is flat. The flat cable connects directly to in panel motor starters, variable frequency drives, soft starters, panel-mounted pushbutton actuators, stacklights and other indicator lights. It eliminates the need for most of the conventional point-to-point control wiring done in a traditionally wired control panel—and even integrates 24 Vdc control power for contactor coils on the single SmartWire-DT cable. The start of the SmartWire-DT system is either an Eaton PLC or a combination HMI/PLC with SmartWire-DT embedded or a simple gateway.

These SmartWire-DT gateways establish the connection between a SmartWire-DT system and standard programmable logic controller (PLC) fieldbuses, such as EtherNet/IP, Modbus TCP, EtherCAT, PROFINET, POWERLINK, PROFIBUS DP and CANopen. The gateway works without any conventional PLC I/O required because SmartWire-DT directly integrates the input/output (I/O) level in the switching devices.

Inside the control cabinet, typical faults such as loose connections and miswired terminations are eliminated using the flat cable and the specialized connectors. Outside the cabinet on the machine, the SmartWire-DT machine mount I/O modules connect using industry standard keyed M12 connectors to eliminate the possibility of miswiring. Further, dramatic wiring reductions are possible given the single SmartWire-DT cable connection that brings 24 Vdc power to and carries signals to and from devices.

Each SmartWire-DT machine mount I/O module has diagnostic LEDs built in, reducing commissioning time and troubleshooting in the field.

Nodes on the SmartWire-DT network both inside and outside the main control cabinet are automatically assigned addresses by the gateway or the HMI/PLC device with the simple push of a button—assigning addresses in the order that the nodes are connected. The system employs time monitoring and a watchdog timeout using the established target configuration as a reference—safely monitoring the integrity of the control scheme. SmartWire-DT has a maximum network length of 2000 feet and can connect up to 99 nodes per gateway. A software program called SWD-Assist enables the layout, planning and system configuration of a SmartWire-DT network.

Features

Connects directly to:

- XTPE electronic manual motor protectors
- XTCE contactors
- XTRE control relays
- Electronic motor starters
- DS7 soft start controllers
- DE1 variable speed starters
- DC1 VFDs
- DA1 VFDs
- M22 pilot devices
- SL4 and SL7 stacklights
- On Machine devices including sensors, limit switches, pneumatic and hydraulic valves, remote contactors, pushbuttons, stacklights and other command and control components

Gateways support fieldbus integration, including:

- EtherNet/IP
- Modbus TCP
- EtherCAT
- PROFINET
- POWERLINK
- PROFIBUS DP
- CANopen
- Supports up to 99 nodes (58 nodes when connected to PROFIBUS DP Gateway)
- Automatically assigns node addresses
- Integrates and supplies 24 Vdc power to contactor coils
- Includes diagnostic bi-color LEDs on each node connection

Standards and Certifications

- UL listed
- UL tested to Canadian safety standards
- CE Certified
- RoHS compliant

System Components

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System Components

Product Description

The start of the SmartWire-DT system is usually a gateway module connected to a PLC or controller fieldbus. This means that SmartWire-DT connected components will work with most third-party PLCs without having to create a new program. These devices are typically located within the main control cabinet for a machine.

To plan and lay out a SmartWire-DT network, an MS Windows-compatible software program called SWD-Assist is available as a free download from the Eaton website. The SWD-Assist configuration software allows a user to drag-and-drop system components like motor starters, drives, pushbuttons and indicator lights, and will calculate the control power requirements needed and generate a bill of materials of all the required SmartWire-DT components.

To download the SWD-Assist configuration software, visit www.eaton.com/smartwiredt.

In Panel Components

Gateway Modules

Gateway modules connect the SmartWire-DT system to the PLC. They are connected as nodes to the existing PLC fieldbus and are the start of the SmartWire-DT connection system. Gateways are available with EtherNet/IP, Modbus TCP, EtherCAT, PROFINET, POWERLINK, PROFIBUS DP and CANopen protocols.

System Controllers

In the event that the Gateway module plus third-party PLC architecture is not used, system controllers from Eaton can operate a SmartWire-DT system. System controllers include an integrated SmartWire-DT gateway and are available as PLCs or HMI-PLCs using a CoDeSys programming platform or as programmable relays using simple ladder logic programming.

Motor Control Modules

Contactor modules fit into standard XT contactors and control relays directly on top, in place of a top-mounted auxiliary contact block. The modules fit all XTCE size B and C frame contactors and XTRE control relays.

Variable Speed Starters and Variable Frequency Drives connect to the SmartWire-DT system with plug-in modules similar to the approach with contactor modules.

Soft Start Controllers and Electronic Motor Starters with built-in SmartWire-DT functionality connect directly to the SmartWire-DT flat cable without the need for a supplemental module.

Pilot Device Modules

Pilot device modules fit into standard M22 pilot devices in both front-mount and base-mount configurations and replace the standard contact block and light units. Single and double contact modules with and without LEDs are available to meet a wide variety of control circuit requirements.

Stacklight Base Modules

Stacklight modules connect SL4 and SL7 Series stacklights when mounted to the control cabinet with Eaton's Fast Mount Base. A variety of incandescent, LED, high- power LED and audible signal modules are available to meet machine indication requirements.

In Panel Components

Digital and Analog I/O Modules

Digital and analog I/O modules are connected as nodes on the SmartWire-DT network and allow standard or generic devices to be connected to the SmartWire-DT system. They can be connected anywhere along the flat cable network and can therefore be positioned in the control panel to help reduce I/O wiring.

Powerfeed Modules

Powerfeed modules feed auxiliary 24 Vdc power and/or 15 Vdc network power into the SmartWire-DT flat cable. The auxiliary 24 Vdc power is needed for the power supply of contactors and the 15 Vdc network power is used for supplying power to additional SmartWire-DT nodes. Powerfeed modules are also used to create zone control or groups of devices controlled by a single Emergency Stop.

SmartWire-DT Flat Cable

The flat cable is an 8-conductor cable that is flexible, durable and rated for 600 V so that it can be placed in the panel wiring duct along with 480 V or 600 V power conductors. It has two prominent features: (a) arrows indicating the front of the cable and the direction away from the gateway and (b) black edging indicating the polarity of the flat cable, the 15 Vdc wire and the reference mark for installing the device plugs and flat plugs.

Other System Accessories

Other accessories for the SmartWire-DT system include connectors, jumpers, bushings, plugs and sockets, terminating resistors and crimping tools.

On Machine Components

At the edge of the control cabinet the SmartWire-DT system transitions from the 8-conductor flat cable to a 5-conductor round cable with standard DC M12 barrel connectors, using simple transition adapters that mount through the panel wall.

SmartWire-DT Round Cable

The round cable has 5 conductors, uses standard DC M12 barrel connectors, and is 300 V rated. It is used outside the control panel to connect SmartWire-DT machine mount I/O modules to the SmartWire-DT system for use with peripherals such as sensors, enclosed pushbuttons, pneumatic and hydraulic valves, stacklights and other remote devices. This single cable is used both to provide power to connected devices and to carry I/O signals.

Machine Mount I/O Modules

Machine mountable I/O modules are connected as nodes on the SmartWire-DT network and allow standard or generic devices to be connected to the SmartWire-DT system. They are suitable for washdown environments and can be connected anywhere around the machine with up to 2000 feet and 99 devices possible with a single cable connection.

Accessory Cables

A variety of accessory cables are available to make the connection between remote devices (including sensors, stacklights, hydraulic and pneumatic valves, enclosed pilot devices, and other command and control devices) and the SmartWire-DT machine mounted I/O modules.

Enclosed Pilot Device Stations

Pilot device modules mounted in IP67 enclosures for use in remote machine locations can be assembled from standard components supplied by Eaton, and contacts can be wired for direct connection to a SmartWire-DT machine mount I/O module using a standard device accessory cable as described in the section above. Examples of such devices include pilot lights, pushbuttons, illuminated pushbuttons, selector switches and key switches.

Remote Stacklights

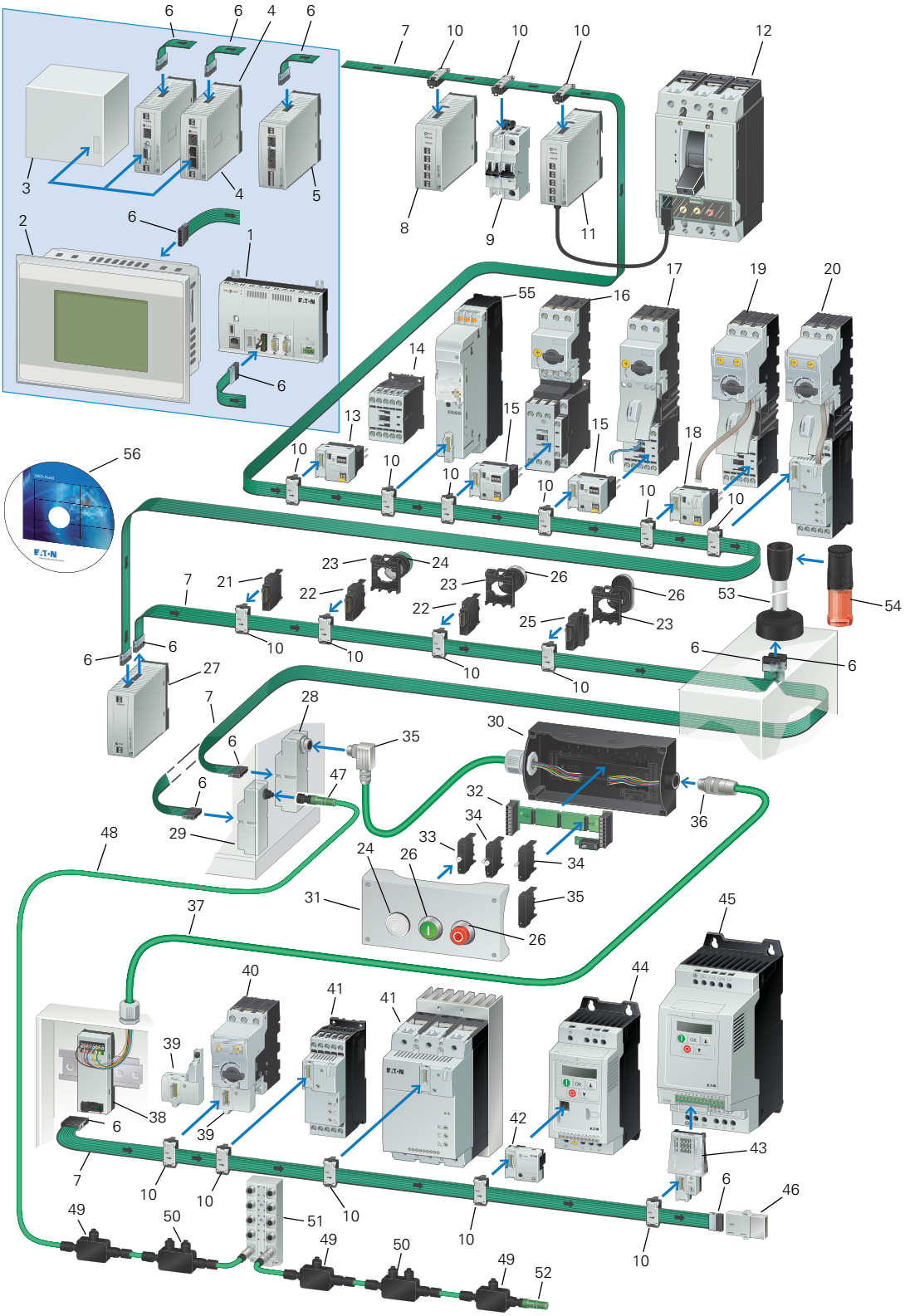
Stacklights for use in remote machine locations can be assembled from standard components supplied by Eaton with contacts wired for direct connection to a SmartWire-DT machine mount I/O module using a standard device accessory cable.

Machine Mount Powerfeed Modules

Powerfeed modules feed 4 A of auxiliary 24 Vdc power into the SmartWire-DT round cable when needed to supply power to additional SmartWire-DT nodes. Eaton's SWD-Assist software can be used to quickly and easily calculate the need for Powerfeed modules in a round cable system.

System Overview Diagram

SmartWire-DT Contactor Modules



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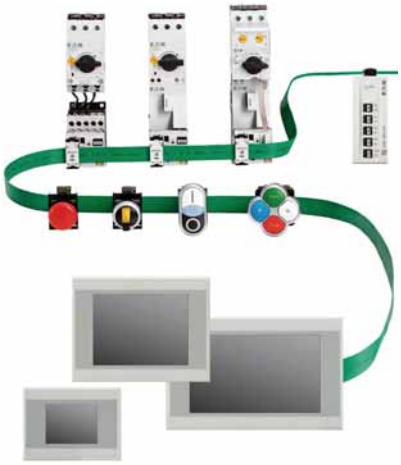
1	SmartWire-DT PLC XC-152
2	SmartWire-DT HMI-PLC
3	PLC with field bus interface
4	SmartWire-DT Gateways
5	Control relay easy800 with SmartWire-DT
6	SmartWire-DT blade terminal, 8-pole
7	SmartWire-DT 8-pin ribbon cable
8	SmartWire-DT I/O module
9	SmartWire-DT module for miniature circuit-breakers and residual-current circuit breakers
10	SmartWire-DT external device plug, 8-pole
11	SmartWire-DT connection for NZM
12	NZM circuit-breakers
13	SmartWire-DT contactor module
14	DILM contactor
15	SmartWire-DT contactor module with Hand-Off-Automatic switch
16	Motor protective circuit-breakers
17	Motor starter MSC
18	SmartWire-DT PKE module (motor starter)
19	Motor starter with PKE electronic motor protection
20	Soft starter DS7 with electronic motor protection from PKE
21	SmartWire-DT universal module, front mount
22	SmartWire-DT LED elements, front mount
23	RMQ-Titan mounting clamp for flush mounting plates
24	RMQ-Titan indicator light
25	SmartWire-DT function elements for front mount
26	SmartWire-DT operating elements
27	SmartWire-DT Powerfeed card
28	SmartWire-DT enclosure cable gland for converting a ribbon cable to an 8-pin round cable, M20

Item Number	Description
29	SmartWire-DT enclosure cable gland for converting a ribbon cable to a 5-pin round cable, M12
30	Surface mounting enclosure RMQ-Titan
31	Surface mounting enclosure RMQ-Titan
32	SmartWire-DT card for function elements, base fixing
33	SmartWire-DT LED elements for base fixing
34	SmartWire-DT function elements for base fixing
35	SmartWire-DT Universal slave for base fixing
36	SmartWire-DT 8-pin connector
37	SmartWire-DT round cable, 8-pole
38	SmartWire-DT adapter for flat/round cable for top-hat rail mounting
39	SmartWire-DT PKE (motor-protective circuit-breaker)
40	PKE motor-protective circuit-breakers
41	DS7 soft starter
42	SmartWire-DT function element for DC1 variable frequency drives
43	SmartWire-DT function element for DA1 variable frequency drives
44	DC1 variable frequency drives
45	DA1 variable frequency drives
46	SmartWire-DT bus termination resistor for 8-pin ribbon cable
47	5-pin M12 plug connector
48	Round cable, 5-pole
49	SmartWire-DT machine mount I/O module, 2 I/O
50	SmartWire-DT machine mount I/O module, 4 I/O
51	SmartWire-DT machine mount I/O module, max. 16 I/O
52	SmartWire-DT machine mount bus termination resistor for 5-pin round cable, M12
53	SmartWire-DT connection to SL4/SL7 signal tower
54	Signal towers SL4 /SL7
55	Electronic motor starter EMS
56	SmartWire-DT planning and ordering aid, SWD-Assist

Gateway Modules and System Controllers



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Gateway Modules and System Controllers

Gateway Modules

Product Description

SmartWire-DT Gateway modules allow easy connection to a wide variety of systems using standard fieldbus interfaces.

Gateways can be used to connect the SmartWire-DT communication system to PLCs and operating systems from any manufacturer using standardized fieldbus interfaces. SmartWire-DT can communicate via EtherNet/IP, Modbus-TCP, EtherCAT, PROFINET, POWERLINK, PROFIBUS DP and CANopen with simple connection and configuration and with no changes required to the core PLC program in use.

Features

- Easy plug & play connection to the SmartWire-DT network
- Models available for all standard fieldbus protocols
- Simple interface to third-party PLCs
- Allow OEMs to easily transition between customer-specified PLCs without changing underlying in panel and on machine wiring

System Controllers

XV Series HMI-PLC with SmartWire-DT

Product Description

The XV HMI-PLC controller with SmartWire-DT master is a powerful combination of logic, visualization and motor control connectivity. It is ideal for small to mid-range PLC applications where integrated logic and visualization is advantageous and/or where remote administration is critical. The integrated SmartWire-DT master can control 99 nodes on a 2000 foot-long network.

Features

- Built-in SmartWire-DT master for 99 nodes
- Brilliant image display with 65,536 colors
- High resolution resistive touch TFT displays
- 3.5 in, 5.7 in or 7 in widescreen displays in robust plastic housings and bezels, or
- 5.7 in, 8.4 in or 10.4 in displays in high-end aluminum front bezels and metal housings
- Ethernet and RS-485 serial ports on all models
- PROFIBUS DP or CANopen master on all models larger than 3.5 in
- Programmable with IEC 61131-3 compliant XSoft-CoDeSys software
- Easy connection direct to motor control and other I/O both inside and outside the machine control cabinet using the SmartWire-DT machine wiring system

Standards and Certifications

- cULus
- CE
- RoHS

c UL us Listed CE RoHS COMPLIANT

XC152 Series PLC with SmartWire-DT

Product Description

The XC152 compact PLC combines plenty of processing power with a large number of communication interfaces. This makes the device particularly well-suited to standardized automation solutions in modular machine building applications.

The XC152 not only provides machine segment control functions that can be programmed with CoDeSys, but it can store module-specific visualizations. These visualizations can be retrieved and displayed on a central HMI or a computer as needed.

In addition, the XC152 connects a SmartWire-DT wiring network to standard fieldbus systems via built-in interfaces. This enables the XC152 PLC to support Eaton's Lean Automation strategy while enabling users to design automation systems in a flexible manner and run them cost-effectively.

Features

- CoDeSys PLC and Web visualization
- Galileo/CoDeSys remote visualization
- Ethernet port on all models
- Windows® CE 5 operating system
- 32-bit RISC CPU at 400 MHz
- 64 MB internal memory
- SD card slot for external memory
- Run/Stop switch
- Integrated SmartWire-DT master for 99 nodes
- Optional: RS-232, RS-485, PROFIBUS DP/MPI, CANopen/easyNet

Standards and Certifications

- IEC/EN 61131-2, EN 50178
- EN 61000-6-2, EN 61000-6-4
- cULus
- CE
- RoHS

c UL us Listed CE RoHS COMPLIANT

easy802/806 Programmable Relays with SmartWire-DT

Product Description

The new easy800 with integrated SmartWire-DT can control up to 99 SmartWire-DT devices with up to 166 inputs and outputs. These easy800 devices feature an integrated power feeder for regulating power to connected devices, and offer built-in LEDs for visual feedback on the state of the SmartWire-DT system.

To support programming, networking and communications, the easy800 has a range of built-in interfaces. Programming is accomplished using a simple USB cable, and connection of remote text displays, touch panels and to Ethernet is straightforward.

Within the easy800 family, a model is available that features four fast inputs (5 kHz) on the controller itself. Two of the four inputs can also be configured as fast outputs (5 kHz). In addition, this model supports the interconnection of multiple controllers to enable up to 1360 inputs/outputs on a single system.

Standards

- EN 50178
- IEC/EN 60947
- UL 508

Certifications

- cULus
- CE
- C-Tick
- RoHS

c UL us Listed CE RoHS COMPLIANT

System Control Overview

Lean Solution Architecture #1

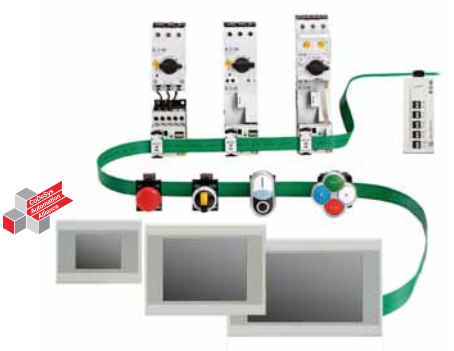
Gateway SmartWire-DT to any PLC

- Advantages of SmartWire-DT without changing your control architecture
- Optimize and standardize your control cabinet
- Simplify PLC transitions

Lean Solution Architecture #2

XV HMI-PLC with Integrated SmartWire-DT

- Fully optimize your machine design
- Powerful control and visualization capabilities
- Combine SmartWire-DT with broad fieldbus and enterprise networking capabilities



Lean Solution Architecture #3

XC152 SmartWire-DT PLC

- When local visualization is not required
- Powerful CoDeSys-based control
- Combine SmartWire-DT with broad fieldbus and enterprise networking capabilities
- Web visualization and remote access

Lean Solution Architecture #4

easy802/806 Programmable Relays with SmartWire-DT

- Bring the value of SmartWire-DT to small machines
- Simple configuration using easySoft-Pro ladder logic programming software with integrated SWD-Assist configuration utility

Product Selection

Gateway Modules

Gateway modules connect the SmartWire-DT system to the programmable logic controller (PLC). They are connected as nodes to the existing PLC fieldbus and are the start of the SmartWire-DT connection system.

Ethernet Gateway

EtherNet/IP Modbus-TCP Gateway

Description	Baud Rates	Number of SmartWire-DT Nodes	Catalog Number
For connection to EtherNet/IP or Modbus TCP fieldbus Connection via two-port Ethernet switch (RJ45) Separate RS-232 diagnostics interface (RJ45)	10/100 MBit/s	Max. 99	**EU5C-SWD-EIP-MODTCP**

PROFINET Gateway

PROFINET Gateway

Description	Baud Rates	Number of SmartWire-DT Nodes	Catalog Number
For connection to PROFINET fieldbus Connection via two-port Ethernet switch (RJ45) Separate USB diagnostics interface (Mini USB)	100 MBit/s	Max. 99	**EU5C-SWD-PROFINET**

POWERLINK Gateway

POWERLINK Gateway

Description	Baud Rates	Number of SmartWire-DT Nodes	Catalog Number
For connection to POWERLINK fieldbus Connection via two-port Ethernet switch (RJ45) Separate USB diagnostics interface (Mini USB)	100 MBit/s	Max. 99	**EU5C-SWD-POWERLINK**

EtherCAT Gateway

EtherCAT Gateway

Description	Baud Rates	Number of SmartWire-DT Nodes	Catalog Number
For connection to EtherCAT fieldbus Connection via two-port Ethernet switch (RJ45) Separate USB diagnostics interface (Mini USB)	100 MBit/s	Max. 99	**EU5C-SWD-ETHERCAT**

PROFIBUS DP Gateway

PROFIBUS DP Gateway

Description	Baud Rates	Number of SmartWire-DT Nodes	Catalog Number
For connection to PROFIBUS DP fieldbuses Connection via 9-pin Sub-D socket Separate RS-232 diagnostics interface (RJ45)	Up to 12 MBit/s	Max. 58	**EU5C-SWD-DP**

CANopen Gateway

CANopen Gateway

Description	Baud Rates	Number of SmartWire-DT Nodes	Catalog Number
For connection to CANopen fieldbus Connection via 9-pin Sub-D socket Separate RS-232 diagnostics interface (RJ45)	Up to 1 MBit/s	Max. 99	**EU5C-SWD-CAN**

XV HMI/PLC

XV HMI/PLC with SmartWire-DT

XV HMI/PLC with SmartWire-DT

Display Size/Type	Display Resolution	Programming Software	Fieldbus Type	RS-485 (DB9)	Ethernet (RJ45)	Catalog Number
Plastic Housing						
3.5 in TFT	QVGA 320x240	XSoft CoDeSys-2 or -3	None	None	Yes	**XV-102-BE-35TQRC-10**
5.7 in TFT	VGA 640x480	XSoft CoDeSys-2 or -3	CANopen	Yes	Yes	**XV-102-E6-57TVRC-10**
		XSoft CoDeSys-2 or -3	PROFIBUS DP	Yes	Yes	**XV-102-E8-57TVRC-10**
7.0 in TFT	WGA 800x480	XSoft CoDeSys-2 or -3	CANopen	Yes	Yes	**XV-102-E6-70TWRC-10**
		XSoft CoDeSys-2 or -3	PROFIBUS DP	Yes	Yes	**XV-102-E8-70TWRC-10**
Metal Housing						
5.7 in TFT	VGA 640x480	XSoft CoDeSys-2 or -3	CANopen	Yes	Yes	**XV-152-E6-57TVRC-10**
		XSoft CoDeSys-2 or -3	PROFIBUS DP	Yes	Yes	**XV-152-E8-57TVRC-10**
8.4 in TFT	VGA 640x480	XSoft CoDeSys-2 or -3	CANopen	Yes	Yes	**XV-152-E6-84TVRC-10**
		XSoft CoDeSys-2 or -3	PROFIBUS DP	Yes	Yes	**XV-152-E8-84TVRC-10**
10.4 in TFT	VGA 640x480	XSoft CoDeSys-2 or -3	CANopen	Yes	Yes	**XV-152-E6-10TVRC-10**
		XSoft CoDeSys-2 or -3	PROFIBUS DP	Yes	Yes	**XV-152-E8-10TVRC-10**

XV-300

XV-300

XV-300 ①

Display Size/Type	Display Resolution	Programming Software	Fieldbus Type	RS-485 (DB9)	Ethernet (RJ45)	Catalog Number
7.0 in PCT	1024x600	XSoft CoDeSys-3	CANopen	Yes	Single	**XV-303-70-BE0-A00-1C**
7.0 in PCT	1024x600	XSoft CoDeSys-3	CANopen	Yes	Dual	**XV-303-70-CE0-A00-1C**
10.0 in PCT	1024x600	XSoft CoDeSys-3	CANopen	Yes	Single	**XV-303-10-BE0-A00-1C**
10.0 in PCT	1024x600	XSoft CoDeSys-3	CANopen	Yes	Dual	**XV-303-10-CE0-A00-1C**

XC152 PLC

XC152 PLC SmartWire-DT

XC152 PLC SmartWire-DT

Programming Software	Fieldbus Type	RS-232 (DB9)	RS-485 (DB9)	Ethernet (RJ45)	Catalog Number
XSoft CoDeSys-2 or -3	None	Yes	None	Yes	**XC-152-E3-11**
XSoft CoDeSys-2 or -3	CANopen	None	Yes	Yes	**XC-152-E6-11**
XSoft CoDeSys-2 or -3	PROFIBUS DP	None	Yes	Yes	**XC-152-E8-11**

XV and XC Accessories

XV HMI/PLC and XC PLC Accessories

Description	Catalog Number
PLC programming software, single seat license	**SW-XSOFT-CODESYS-3-S**
PLC programming software, multiple seat license	**SW-XSOFT-CODESYS-3-M**
SD memory card	**MEMORY-SD-A1-S**

Note

① XV-303 with SmartWire-DT to be released in the 4th quarter of 2016.

easy800 with SmartWire-DT

EASY802-DC-SWD

EASY806-DC-SWD

easy800 with SmartWire-DT

Description	Programming Software	Fieldbus Type	RS-232 (RJ45)	Inputs 24 Vac 5 kHz	Outputs 24 Vdc ①	Catalog Number
Control relay with SmartWire-DT	EASY-SOFT-PRO	None	Yes	None	None	**EASY802-DC-SWD**
Control relay with SmartWire-DT, four inputs, two of which can be used as outputs (transistor 24 Vdc, 0.1 A), easyNet onboard	EASY-SOFT-PRO	easyNet	Yes	4	2 ①	**EASY806-DC-SWD**

Remote Displays

Both the EASY802 and EASY806 controllers can be connected to a MFD remote display or a XV touch panel display with Galileo.

EASY-SWD Accessories

MFD-80

MFD-CP4

Accessories—easy800

Description	Catalog Number
MFD display, NEMA 4X indoor rated	**MFD-80**
24 Vdc power / communication module	**MFD-CP4**
easy802/806 to MFD-CP4 communication cable, 1.5 m	**EU4A-RJ45-CAB2**
easy802/806 to XV HMI communication cable, 2 m	**EU4A-RJ45-CAB1**
Programming software with SWD-Assist configuration software integrated	**EASY-SOFT-PRO**

Note

① Use of outputs will result in a decrease in an equal number of available inputs.

I/O and Powerfeed Modules, System Connectivity Components

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System Connectivity Components	**V7-T9-16**

I/O and Powerfeed Modules, System Connectivity Components

Product Description

I/O and Powerfeed modules mount easily to DIN rail inside the control cabinet and connect directly to the SmartWire-DT system with snap-in connections to the 8-conductor flat SmartWire-DT cable.

I/O modules provide a means of easy connection of digital and analog devices to the SmartWire-DT network. Powerfeed modules allow the insertion of 24 Vdc and/or 15 Vdc power where necessary based on the power demands of components connected to the SmartWire-DT network.

Connectivity components are designed to make connection of devices to the 8-conductor flat SmartWire-DT cable simple and trouble-free.

Features

- I/O modules available in digital input and output, analog input and output, and RTD input versions in various combinations to simplify panel configuration
- Relay output version available for high-current loads
- Temperature input versions have wide operating ranges to support a variety of application requirements
- Powerfeed modules can be used to create zoned control arrangements to support integration of Emergency Stop devices into a network

Product Selection

Powerfeed Modules

Powerfeed Module

Powerfeed Modules

Powerfeed modules feed and regulate auxiliary 24 Vdc power and/or 15 Vdc network power into the SmartWire-DT flat cable. The auxiliary 24 Vdc power is needed for the power supply of contactors and the 15 Vdc network power is used for supplying power to additional SmartWire-DT nodes. Powerfeed modules are also used to create zone control or groups of devices controlled by a single Emergency Stop.

Description	Pkg. Qty.	Catalog Number
Powerfeed module 1 (for 24 Vdc auxiliary power)	1	**EU5C-SWD-PF1-1**
Powerfeed module 2 (for 24 Vdc auxiliary power and 15 Vdc network power)	1	**EU5C-SWD-PF2-1**

I/O Modules

Digital I/O Module

Digital I/O Modules

Digital input/output (I/O) modules are connected as nodes on the SmartWire-DT network and allow standard or generic devices to be connected to the SmartWire-DT system. They can be connected anywhere along the flat cable network and can therefore be positioned in the control panel to help reduce the I/O wiring.

Description	Pkg. Qty.	Catalog Number
Digital module with 8 digital inputs 24 Vdc	1	**EU5E-SWD-8DX**
Digital module with 8 digital outputs 24 Vdc / 0.5 A	1	**EU5E-SWD-X8D**
Digital module with 4 digital inputs 24 Vdc and 4 transistor outputs 24 Vdc/0.5 A	1	**EU5E-SWD-4D4D**
Digital module with 4 digital inputs 24 Vdc and 2 relay outputs 250 Vac/3 A	1	**EU5E-SWD-4D2R**
Digital module with 4 digital inputs 24 Vdc three-wire connections for sensor inputs	1	**EU5E-SWD-4DX**

Analog I/O Module

Analog I/O Modules

Analog input/output (I/O) modules are connected as nodes on the SmartWire-DT network and allow standard or generic devices to be connected to the SmartWire-DT system. They can be connected anywhere along the flat cable network and can therefore be positioned in the control panel to help reduce the I/O wiring.

Description	Pkg. Qty.	Catalog Number
Analog module with 4 analog inputs 0–10 V or 0–20 mA	1	**EU5E-SWD-4AX**
Analog module with 2 analog inputs 0–10 V or 0–20 mA and 2 analog outputs 0–10 V or 0–20 mA	1	**EU5E-SWD-2A2A**

Temperature Input Module

Temperature Input Modules

Temperature input modules are connected as nodes on the SmartWire-DT network and allow standard or generic devices to be connected to the SmartWire-DT system. They can be connected anywhere along the flat cable network and can therefore be positioned in the control panel to help reduce the I/O wiring.

Description	Pkg. Qty.	Catalog Number
RTD module with 4 temperature inputs Pt100, Pt 1000 or Ni1000; –58 to +392 °F (–50 to +200 °C)	1	**EU5E-SWD-4PT**
RTD module with 4 temperature inputs Pt100, Pt 1000 or Ni1000; –148 to +752 °F (–100 to +400 °C) ①	1	**EU5E-SWD-4PT-2**

Note

① EU5E-SWD-4PT-2 with hardware version V3 (HWV03) have a lower temperature range of –100 °C (–148 °F); earlier versions have a lower temperature range of only –50 °C (–58 °F).

System Connectivity Components

In Panel Components

System connectivity components for the SmartWire-DT system includes cables, connectors, jumpers, bushings, plugs, sockets, flat to round cable adapters, and crimping tools.

In Panel Components

	Description	Length	Pkg. Qty.	Catalog Number
Flat Cable 	**Flat Cable, 8 AWG 24, 600 V**			
	For SmartWire-DT network **inside** the control panel	328.1 ft (100 m)	1	**SWD4-100LF8-24**
	Complete with flat plugs SWD4-8MF2 installed at both ends	9.8 ft (3 m)	1	**SWD4-3LF8-24-2S**
		16.4 ft (5 m)	1	**SWD4-5LF8-24-2S**
		32.8 ft (10 m)	1	**SWD4-10LF8-24-2S**
Device Plug 	**Device Plug**			
	For connection to SmartWire-DT modules or nodes	—	10	**SWD4-8SF2-5**
Flat Plug 	**Flat Plug**			
	For connection to SmartWire-DT system components: gateways, Powerfeed modules, coupling and terminating resistor	—	10	**SWD4-8MF2**
Device Plug Jumper 	**Device Plug Jumper**			
	For bridging open, spare or inverted device plugs	—	5	**SWD4-SEL8-10**
Universal Modules 	**Universal (Placeholder) Module**			
	Front mount	—	20	**M22-SWD-NOP**
Coupling 	**Coupling**			
	For connecting or joining flat cables with flat plugs	—	1	**SWD4-8SFF2-5**
Terminating Resistor 	**Terminating Resistor**			
	For terminating the end of the network on a flat cable	—	1	**SWD4-RC8-10**
	Crimping Tools			
Device Plug Tool 	Device plug crimping tool (for SWD4-8SF2-5)	—	1	**SWD4-CRP-1**
Flat Plug Tool 	Flat plug crimping tool (for SWD4-8MF2)	—	1	**SWD4-CRP-2**

Outside-the-Panel Components

The 8-conductor SmartWire-DT flat cable can be extended outside the cabinet to another cabinet or to pushbutton control stations using cable adapters and 8-conductor round cables.

Note: These cables and components are not compatible with On Machine I/O system as described starting on **Page V7-T9-42**.

Outside-the-Panel Components

	Description	Length	Pkg. Qty.	Catalog Number
Round Cable 	**Round Cable, 4 AWG 20 and 4 AWG 24, 300 V**			
	For SmartWire-DT network **outside** the control panel (8-wire version)	164.0 ft (50 m)	1	**SWD4-50LR8-24**
Universal Base 	**Universal (Placeholder) Module**			
	Base mount	—	20	**M22-SWD-NOPC**
PCB Jumper 	**Control Station PCB Jumper**			
	For bringing open mounting locations on the control station printed circuit board	—	1	**M22-SWD-SEL8-10**
Adapter 	**Panel Cable Adapter**			
	For flat cable (plug) to round cable terminals	—	1	**SWD4-8FRF-10**
Adapter Socket 	**Cabinet Cable Adapter Socket**			
	For flat cable (plug) to round cable (plug)	—	1	**SWD4-SFL8-20**
Adapter Plug 	**Cabinet Cable Adapter Plug**			
	For flat cable (plug) to round cable (socket)	—	1	**SWD4-SML8-20**
	Connectors for Round 8-Pole Cables			
Connector Socket 	Round cable 8-pole plug for cabinet-to-cabinet connection	—	1	**SWD4-SF8-67**
Connector Plug 	Round cable 8-pole plug for cabinet-to-cabinet connection	—	1	**SWD4-SM8-67**
Connector (Right Angle—Socket) 	Right angle round cable 8-pole socket	—	1	**SWD4-SF8-67W**
Connector (Right Angle—Socket) 	Right angle round cable 8-pole plug	—	1	**SWD4-SM8-67W**

Motor Control Modules

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EMS Electronic Motor Starters	**V7-T9-26**
DS7 Soft Start Controllers	**V7-T9-27**
DE1 Variable Speed Starters	**V7-T9-28**
DC1 Variable Frequency Drives	**V7-T9-30**
DA1 Variable Frequency Drives	**V7-T9-32**

Motor Control Modules

Product Description

Contactor modules fit onto standard XT contactors and control relays directly on top, in place of a top mounted auxiliary contact block. The modules fit all XTCE size B and C frame contactors and XTRE control relays.

Soft Start Controllers, Variable Speed Starters and Variable Frequency Drives connect to the SmartWire-DT system with plug-in modules similar to the approach with Contactor Modules.

Electronic Motor Starters with built-in SmartWire-DT functionality connect directly to the SmartWire-DT flat cable without the need for a supplemental module.

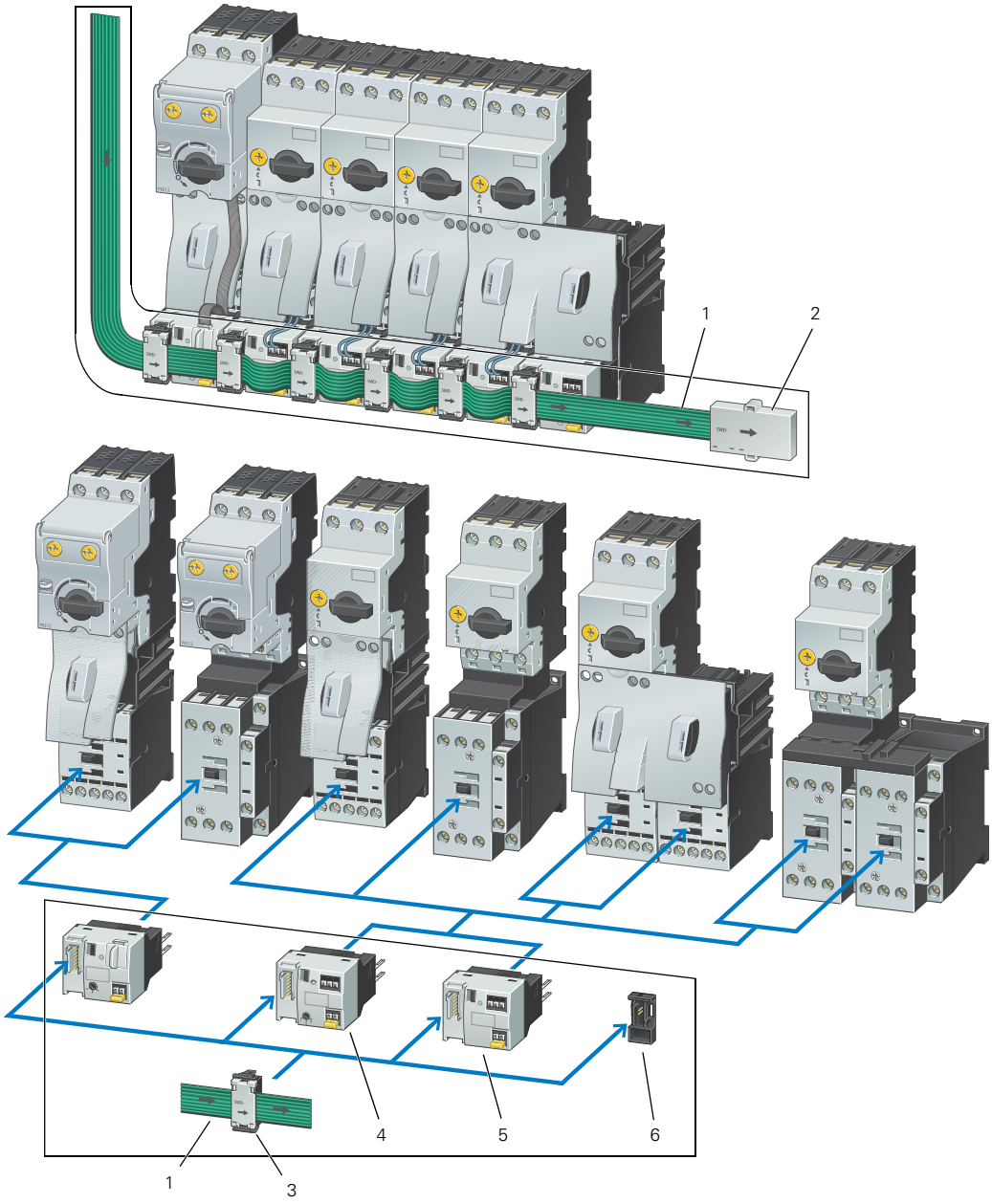
These modules facilitate direct connection to the SmartWire-DT flat cable and eliminate the traditional point-to-point wiring to the PLC input and output modules as well as wiring to the contactor coils.

Features

- Integrated 24 Vdc coil power on network and plug-in modules
- Integrated switch position polling and mechanical switch position display on contactor modules
- Integrated feedback circuit to PLC
- Built-in diagnostic bi-color LEDs on each module
- Connection to SmartWire-DT flat cable via quick disconnect device plugs

Product Identification

SmartWire-DT Contactor Modules



Item Number	Description
1	Flat cable
2	Terminating resistor (SWD4-RC8-10)
3	Device plug (SWD4-85F2-5)
4	Modules for XT contactors with XTPR manual motor protectors, with 1-0-A switch (DIL-SWD-32-002)
5	Modules for XT contactors with XTPR manual motor protectors (DIL-SWD-32-001)
6	Device plug jumper (SWD4-SEL8-10)

XT **Electronic Manual Motor Protector**

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EMS Electronic Motor Starters	**V7-T9-26**
DS7 Soft Start Controllers	**V7-T9-27**
DE1 Variable Speed Starters	**V7-T9-28**
DC1 Variable Frequency Drives	**V7-T9-30**
DA1 Variable Frequency Drives	**V7-T9-32**

XTPE Electronic Manual Motor Protectors

Product Description

The ***XT*** Electronic Manual Motor Protector provides the same functionality as the ***XT*** thermal manual motor protector, but with an added level of flexibility and selectability. The XTPE incorporates electronic control technology to enable more options and larger dial setting ranges. The trip units are interchangeable, allowing users to exchange as needed using the same base. The reduced number of part numbers decreases bill of material complexity while reducing inventory demands. The XTPE electronic manual motor protector includes the following features:

- 4:1 max to min overcurrent dial setting range
- Selectable trip class (5, 10, 15, 20)
- Interchangeable trip units
- Three base units (12, 32 and 65A)
- Common accessories with the XTPR

Features and Benefits

Advanced Trip Unit

In addition to the selectability, the XTPE is also available with an advanced trip unit that can communicate system data and protector data thru SmartWire-DT. SmartWire-DT is an innovative cost effective connection technology that enables quick installation of control wiring to the starter through a single green cable. When on SmartWire-DT, the XTPE can communicate the following:

- Current Values
  - Maximum phase current
  - Overload warning
- Diagnostics Data
  - Overload fault
  - Cause of trip (overcurrent or short circuit)
  - Phase loss
  - Trip via TEST
- Status Messages
  - Control unit type
  - Overload setting
  - Time-lag
  - Switching status

XTPE Electronic MMP

The XTPE Electronic MMP provides the selectability, control, and insight options that give panel builders and OEMs the solutions necessary to enhance motor control designs while reducing total costs.

Standards and Certifications

- CE approved
- UL Listed File No. E36332
- UL 508 group motor and Type E
- IEC/EN 60947
- CSA File 012528, Class 3211-05

Product Selection

XT Electronic Manual Motor Protector

MMP Advanced Trip Units Used with SmartWire-DT

B Frame

Overload Release Setting Amp Range	For Use with Base Catalog Number	UL/CSA Maximum Three-Phase hp Ratings 200 V	240 V	480 V	600 V	IEC Maximum Motor kW Ratings 220 V 230 V 240 V	380 V 400 V 415 V	440 V	500 V	600 V 690 V	Trip Unit Type Number	Catalog Number
B Frame												
0.3–1.2	XTPE012B	①	①	0.5	0.5	0.18	0.37	0.37	0.37	0.75	PKE-XTUA-1,2	**XTPEXTA1P2B**
1–4	XTPE012B	0.75	0.75	2	3	0.75	1.5	1.5	2.2	3	PKE-XTUA-4	**XTPEXTA004B**
3–12	XTPE012B	3	3	7.5	10	3	5.5	5.5	5.5	7.5	PKE-XTUA-12	**XTPEXTA012B**
8–32	XTPE032B	5	7.5	15	20	7.5	15	15	18.5	30	PKE-XTUA-32	**XTPEXTA032B**

D Frame

D Frame												
8–32	XTPE065D	7.5	7.5	20	25	7.5	15	15	18.5	30	PKE-XTUWA-32	**XTPEXTA032D**
16–65	XTPE065D	15	15	40	40	18.5	30	37	45	55	PKE-XTUA-65	**XTPEXTA065D**

B Frame

MMP Used with SmartWire-DT—Complete Assembly

Overload Release Setting Amp Range	UL/CSA Maximum Motor hp Ratings 200 V	230 V	460 V	575 V	IEC Maximum Motor kW Ratings 220 V 230 V 240 V	380 V 400 V 415 V	440 V	500 V	600 V 690 V	Complete Manual Motor Protector Type Number	Catalog Number
0.3–1.2	①	①	0.5	0.5	0.18	0.37	0.37	0.37	0.75	PKE12/XTUA-1,2	**XTPE1P2BCA**
1–4	0.75	0.75	2	3	0.75	1.5	1.5	2.2	3	PKE12/XTUA-4	**XTPE004BCA**
3–12	3	3	7.5	10	3	5.5	5.5	5.5	7.5	PKE12/XTUA-12	**XTPE012BCA**
8–32	5	7.5	15	20	7.5	15	15	18.5	30	PKE32/XTUA-32	**XTPE032BCA**

UL 508 Type E XT Electronic Combination Motor Controllers—Complete Assembly Including Trip Unit

B Frame

B Frame Electronic MMP with C Frame Contactor

Overload Release Setting Amp Range	UL/CSA Maximum Three-Phase hp Ratings 200 V	240 V	380 Y/ 415 V	480 Y/ 277 V	600 Y/ 347 V	Maximum Single-Phase hp Ratings 115 V	200 V	240 V	Catalog Number With SmartWire-DT
0.3–1.2	①	①	①	①	0.5	①	①	①	**XTFCE1P2BCCATD** ②
1–4	0.75	0.75	1.5	2	—	0.125	0.25	0.33	**XTFCE004BCCATD** ③
3–12	3	3	5	7.5	—	0.5	1	1.5	**XTFCE012BCCATD** ③
8–32	5	5	10	15	—	1.5	3	3	**XTFCE032BCCATD** ③

Notes

① In this range, calculate motor rating according to rated current. Specified values to NEC 430.6 (A) (1).
② SCCR: 14 kA, 600 Vac
③ SCCR: 18 kA, 480 Vac

PKE-SWD-SP

SmartWire-DT PKE MMP Module

SmartWire-DT module for connecting XTPE manual motor protector (MMP) advanced trip units.

Description	For Use With …	Pkg. Qty.	Catalog Number
Enables monitoring of XTPE switch position/status			
Commands: – Remote tripping of MMP – Motor current in % – Thermal motor image in % – Set value of trip unit class/setting – Cause of trip (overload vs. short-circuit)	XTPEXTA	1	**PKE-SWD-SP**

PKE32-COM

SmartWire-DT PKE MMP Cable

Communication cable for connecting PKE contactor modules and DS7 soft start controllers to XTPE manual motor protector (MMP).

Description	For Use With …	Pkg. Qty.	Catalog Number
Order as needed to connect DS7-34D soft start controllers to XTPE MMPs (up to 32 A)	DS7-34D_		
This cable is included with the PKE-SWD-32 PKE contactor modules	PKE-SWD-32	1	**PKE32-COM**

XT Family of Contactors

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DS7 Soft Start Controllers	**V7-T9-27**
DE1 Variable Speed Starters	**V7-T9-28**
DC1 Variable Frequency Drives	**V7-T9-30**
DA1 Variable Frequency Drives	**V7-T9-32**

XTCE Contactor Modules

Product Description

The Eaton ***XT*** contactors include non-reversing and reversing contactors, and a variety of related accessories. Because ***XT*** meets IEC, UL®, CSA® and CE standards, it is the perfect product solution for IEC applications all over the world. The compact, space saving and easy to install ***XT*** line of IEC contactors is the efficient and effective solution for customer applications.

Application Description

The ***XT*** line of IEC power control was engineered to provide highly effective control and protection for a variety of loads, including motors, compressors, pumps, resistive, capacitor banks, isolation, and others. ***XT*** also includes IEC ratings for lighting applications as well.

Features and Benefits

- Available with screw or spring cage terminals
- Reversing or non-reversing contactors and starters
- IP20 finger and back-of-hand proof
- Large ambient temperature range, –25 to 50 °C [–13 to 122 °F]
- Low power consumption DC coils
- Built-in NO or NC auxiliary contacts to 32 A
- Plug-in accessories for reduced installation time
- Integrated suppressor 7–150 Vdc operated contactors

Standards and Certifications

- IEC EN 60947
- CE approved
- UL
- CSA
- ATEX
- RoHS

Product Selection

Full Voltage, Non-Reversing Contactors

Frame B

Three-Pole Contactors, Frame B—UL/CSA Ratings

UL General Purpose Ampere Rating	Single-Phase hp Ratings 115 V	200 V	230 V	Three-Phase hp Ratings 200 V	230 V	460 V	575 V	Auxiliary Contacts	Screw Terminal Catalog Number ①
20	1/4	3/4	1	1-1/2	2	3	5	1NO	**XTCE007B10TD**
20	1/4	3/4	1	1-1/2	2	3	5	1NC	**XTCE007B01TD**
20	1/2	1	1-1/2	3	3	5	7-1/2	1NO	**XTCE009B10TD**
20	1/2	1	1-1/2	3	3	5	7-1/2	1NC	**XTCE009B01TD**
20	1	2	2	3	3	10 ③	10	1NO	**XTCE012B10TD**
20	1	2	2	3	3	10 ③	10	1NC	**XTCE012B01TD**
20	1	2	3	5	5	10 ③	10	1NO	**XTCE015B10TD**
20	1	2	3	5	5	10 ③	10	1NC	**XTCE015B01TD**

Frame C

Three-Pole Contactors, Frame C—UL/CSA Ratings

UL General Purpose Ampere Rating	Single-Phase hp Ratings 115 V	200 V	230 V	Three-Phase hp Ratings 200 V	230 V	460 V	575 V	Auxiliary Contacts	Screw Terminal Catalog Number ①
40	2	2	3	5	5	10	15	1NO	**XTCE018C10TD**
40	2	2	3	5	5	10	15	1NC	**XTCE018C01TD**
40	2	3	5	7-1/2	10	15	20	1NO	**XTCE025C10TD**
40	2	3	5	7-1/2	10	15	20	1NC	**XTCE025C01TD**
40	3	5	5	10	10	20	25	1NO	**XTCE032C10TD**
40	3	5	5	10	10	20	25	1NC	**XTCE032C01TD**

Notes

The 7–32A XTCE contactors have positively driven contacts between the integrated auxiliary contact and the auxiliary contact module as well as within the auxiliary contact modules.

DC operated contactors (Frames B–G, 7–150 A) have a built-in suppressor circuit.

① For spring cage terminals, insert **C** after the fourth digit of the catalog number. Example: XTCE**C**007B10A.
For 7–12A XTCEC contactors, the power, auxiliary and coil terminals are spring cage.
For 18–32A XTCEC contactors, the auxiliary and coil terminals are spring cage.
For 40–150A XTCEC contactors, the coil terminals only are spring cage.

Contactor Modules

Contactor Modules

Contactor Modules ①②③

SmartWire-DT module for attachment to XTCE007–XTCE032 contactors and XTRE control relays.
One module is required per contactor.

Description	Pkg. Qty.	Catalog Number
Two digital inputs for voltage-free contacts. One electrical interlock for the surface mounting of reversing combinations. Messages: Switch status contactor, status of the digital inputs 1 and 2. Commands: Contactor actuation.	5	**DIL-SWD-32-001**
Two digital inputs for voltage-free contacts. One electrical interlock for the surface mounting of reversing combinations. 1-0-A switch for manual or automatic operation. Messages: Contactor switching position, status of the digital inputs 1 and 2, 1-0-A switch position. Commands: Contactor actuation.	5	**DIL-SWD-32-002**

PKE Contactor Module

PKE Contactor Module

SmartWire-DT module for connection of XTPE manual motor controllers.
One module is required per contactor and XTPE manual motor protector.

Description	Pkg. Qty.	Catalog Number
Connecting cable between module and XTPE trip block included as standard. One electrical interlock for the surface mounting of reversing starters. 1-0-A switch for manual or automatic operation. Selectable overload relay function for connecting the contactor on overload. Messages: Switch position contactor/PKE/1-0-A switch Motor current in % Thermal motor image in % Trip-indicating auxiliary contact (Overload, Short-circuit,...) Set value of overload releases Set value Verification time (CLASS), Part no. Trip block. Commands: Contactor actuation, activation of overload relay function (ZMR)	4	**PKE-SWD-32**

Design Note

The number of motor starters or XTCE contactors that can be connected is dependent upon the power consumption of the contactor coils. To increase the number of SmartWire-DT modules that can be connected, Powerfeed modules can be used. The SWD-Assist configuration program (download from www.eaton.com/smartwiredt) will automatically check and insert Powerfeed modules as needed based on the number of contactors used and the utilization factors selected.

24 Vdc		XTCE007	XTCE009	XTCE012	XTCE015	XTCE018	XTCE025	XTCE032
Pick-up power	W	3	3	4.5	4.5	12	12	12
Sealing power	W	3	3	4.5	4.5	0.5	0.5	0.5

Reversing Contactors

Reversing Contactor

Reversing Contactors

When using the tool-less reversing link kits on Frame B contactors, a different reversing bridge is required without the A2 coil bridge.

Description	Pkg. Qty.	Catalog Number
Reversing bridge for Frame B contactors on SmartWire-DT	20	**XTCEXRBB-0A2**

Notes

① Take account of the maximum current consumption of the contactor coils per SmartWire-DT line.
② A2 connections must not be linked.
③ Connection terminals for electrical interlocking are not suitable for safety technology.

EMS Electronic Motor Starters

Product Selection

EMS-DOS-…, EMS-ROS-…

Electronic Motor Starters—Complete Devices

Electronic Motor Starters with SmartWire-DT built in do not require a separate module for connection to the SmartWire-DT network. Connection is made directly to the SmartWire-DT flat cable.

Description	Max. Equivalent hp Rating for Three-Phase Motors, 60 Hz				Setting Range of Overload Releases I_r A	DC Operation 24 Vdc Catalog Number
	208 V	480 V	AC1	AC3		
DOL starting, Motor protection, For connecting to SmartWire-DT. Circuit design: Safety output stage with bypass, three-phase disconnect.	—	1	2.4	2.4	0.18–2.4	**EMS-DO-T-2.4-SWD**
	2	5	9.0	7.6	1.5–9 7 (AC–53a)	**EMS-DO-T-9-SWD**
DOL starting, Motor protection, Emergency-stop actuator. Circuit design: Safety output stage with bypass, three-phase disconnect.	—	1	2.4	2.4	0.18–2.4	**EMS-DOS-T-2.4-SWD** ①
	2	5	9.0	7.6	1.5–9 7 (AC–53a)	**EMS-DOS-T-9-SWD** ①
DOL starting, Reversing start, Motor protection, For connecting to SmartWire-DT. Circuit design: Safety output stage with bypass, three-phase disconnect.	—	1	2.4	2.4	0.18–2.4	**EMS-RO-T-2.4-SWD**
	2	5	9.0	7.6	1.5–9 7 (AC–53a)	**EMS-RO-T-9-SWD**
DOL starting, Reversing start, Motor protection, Emergency-stop actuator. Circuit design: Safety output stage with bypass, three-phase disconnect.	—	1	2.4	2.4	0.18–2.4	**EMS-ROS-T-2.4-SWD** ①
	2	5	9.0	7.6	1.5–9 7 (AC–53a)	**EMS-ROS-T-9-SWD** ①

Note

① EMS-DOS and EMS-ROS starters with emergency stop function have an additional terminal that needs to be connected to 0 V / 24 Vdc to provide an enable signal. (This is in addition to the SmartWire-DT signal.) Actuation of an E-stop will interrupt the 0 V / 24 Vdc connection and also override the SmartWire-DT signal.

DS7 Soft Start Controllers

Product Selection

Soft Start Controllers—Complete Devices

DS7 Series Soft Start Controllers with SmartWire-DT built in do not require a separate module for connection to the SmartWire-DT network. Connection is made directly to the SmartWire-DT flat cable.

Soft starters for three-phase variable-torque loads.
Mains supply voltage (208–480 Vac, 60 Hz).

DS7-… (4 to 12 A)

4 to 12 A

Rated Operational Current A	Assigned Motor Rating at 480 V, 60 Hz hp	U_C 24 Vac/Vdc U_s 24 Vac/Vdc Expanded Temperature Range (Down to –40 °C) Catalog Number
4	2	DS7-34DSX004N0-D ①
7	5	DS7-34DSX007N0-D ①
9	5	DS7-34DSX009N0-D ①
12	10	DS7-34DSX012N0-D ①

DS7-… (16 to 32 A)

16 to 32 A

Rated Operational Current A	Assigned Motor Rating at 480 V, 60 Hz hp	U_C 24 Vac/Vdc U_s 24 Vac/Vdc Expanded Temperature Range (Down to –40 °C) Catalog Number
16	10	DS7-34DSX016N0-D ①
24	15	DS7-34DSX024N0-D ①
32	25	DS7-34DSX032N0-D ①

DS7-… (41 to 100 A)

41 to 100 A

Rated Operational Current A	Assigned Motor Rating at 480 V, 60 Hz hp	U_C 24 Vac/Vdc U_s 24 Vac/Vdc Expanded Temperature Range (Down to –40 °C) Catalog Number
41	30	DS7-34DSX041N0-D
55	40	DS7-34DSX055N0-D
70	50	DS7-34DSX070N0-D
81	60	DS7-34DSX081N0-D
100	75	DS7-34DSX100N0-D

DS7-… (135 to 200 A)

135 to 200 A

Rated Operational Current A	Assigned Motor Rating at 480 V, 60 Hz hp	U_C 24 Vac/Vdc U_s 24 Vac/Vdc Expanded Temperature Range (Down to –40 °C) Catalog Number
135	100	DS7-34DSX135N0-D
160	125	DS7-34DSX160N0-D
200	150	DS7-34DSX200N0-D

Note

① DS7 controllers up to 32 A can be connected with XTPE manual motor protectors (MMP) with the PKE32-COM cable (see **Page V7-T9-21** for details).

PowerXL DE1 Series

Contents

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Motor Control Modules	
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XTCE Contactor Modules	**V7-T9-23**
EMS Electronic Motor Starters	**V7-T9-26**
DS7 Soft Start Controllers	**V7-T9-27**
DE1 Variable Speed Starters	
Product Selection	**V7-T9-29**
DC1 Variable Frequency Drives	**V7-T9-30**
DA1 Variable Frequency Drives	**V7-T9-32**

DE1 Variable Speed Starters

Product Description

Eaton's PowerXL® DE1 variable speed starter offers the advantages of both a motor starter and a variable frequency drive in a single device. The DE1 is a compact and easy-to-use device with the ability to change the speed of the motor with the simplicity of a contactor starter. With 14 basic parameters, SmartWire-DT connectivity and an intuitive configuration module, the DE1 setup and commissioning is easy for any panel builder and MOEM. The DE1 was designed for customers who have concerns of the complexity of a VFD but still require variable frequency and advanced motor protection.

Models rated at 480 volts, three-phase, 50/60 Hz are available in sizes ranging from 0.5 to 10 hp. Models rated at 230 volts, single-phase in/three-phase out, 50/60 Hz are available in sizes ranging from 0.33 to 3 hp.

The DE1 VSS is designed without a keypad to provide a simplistic, cost effective solution. Units are shipped without a keypad. In order to change parameters, there are accessories such as the configuration module that can change up to 5 parameters or connectivity products to connect to the drivesConnect PC Tool.

Features

- Compact, space-saving design
- Rugged design rated up to 60 °C without derating
- DIN rail and screw mountable
- Narrow footprint for true side-by-side installation
- Rated for group motor applications
- Low capacitor design for low harmonics
- Control terminal blocks
  - Three digital inputs
  - One digital/analog (programmable) input
  - One relay output
- Contactor style power wiring
- RS-485/Modbus as standard
- Efficient, simple design without a keypad
  - Three indicating LEDs for fault and condition status
- Reliable design—
  150% for 60 s
  175% for 2 s

Standards and Certifications

Product

- Complies with EN 61800-3

Safety

- IEC 61800-5-1
- CE
- UL
- CSA/cUL
- cTick
- UKRSekpro
- GOST R
- RoHS compliant

Product Selection

IP20


FS1


FS2

DE1 Series IP20 Enclosure Drives

hp ①	kW	Volts	100% Continuous Current (A)	Frame Size	Catalog Number ②
0.33	0.25	200–240 V single-phase in/ 230 V three-phase out	1.4	1	**DE1-121D4NN-N20N**
0.5	0.37		2.3	1	**DE1-122D3NN-N20N**
0.75	0.55		2.7	1	**DE1-122D7NN-N20N**
1	0.75		4.3	1	**DE1-124D3NN-N20N**
2	1.5		7	1	**DE1-127D0NN-N20N**
3	2.2		9.6	2	**DE1-129D6NN-N20N**
0.5	0.37	380–480 V three-phase in/ 480 V three-phase out	1.3	1	**DE1-341D3NN-N20N**
1	0.75		2.1	1	**DE1-342D1NN-N20N**
2	1.5		3.6	1	**DE1-343D6NN-N20N**
3	2.2		5	2	**DE1-345D0NN-N20N**
4	3		6.6	2	**DE1-346D6NN-N20N**
5	4		8.5	2	**DE1-348D5NN-N20N**
7.5	5.5		11.3	2	**DE1-34011NN-N20N**
10	7.5		16	2	**DE1-34016NN-N20N**

DX-NET-SWD3

SmartWire-DT DE1 VSS Module

SmartWire-DT module for connecting DE1 variable speed starters (VSS) to the SmartWire-DT network.

Description	For Use With …	Pkg. Qty.	Catalog Number
1-0-A switch for manual or automatic operation	DE1 DC1	1	**DX-NET-SWD3**

Notes

① For all applications, select the unit such that the motor current is less than or equal to the rated continuous output current.
② These are constant torque/high overload rated drives.

PowerXL DC1 Series Drives

Contents

Description	*Page*
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EMS Electronic Motor Starters	**V7-T9-26**
DS7 Soft Start Controllers	**V7-T9-27**
DE1 Variable Speed Starters	**V7-T9-28**
DC1 Variable Frequency Drives	
Product Selection	**V7-T9-31**
DA1 Variable Frequency Drives	**V7-T9-32**

DC1 Variable Frequency Drives

Product Description

Eaton's PowerXL® DC1 variable frequency drives are the next generation of drives specifically engineered for today's machinery applications.

The DC1 is compact with only 14 basic parameters, SmartWire-DT connectivity, and outstanding ease of mounting and installation. The DC1 is perfect for quick commissioning and is ideal for panel builders. This drive supports single-phase motor applications, and detachable terminal blocks make control wiring much easier.

Models rated at 480 volts, three-phase, 50/60 Hz are available in sizes ranging from 1 to 30 hp ②. Models rated at 240 volts, single- or three-phase, 50/60 Hz are available in sizes ranging from 0.5 to 15 hp ②. Models rated at 115 volts, single-phase, 50/60 Hz are available in the 0.5 to 3 hp size range.

Features

- Compact, space-saving design
- Rugged and reliable—175% for 2 s, 50 °C rated
- DIN rail and screw mountable (FS1 and FS2)
- Side-by-side installation
- Industry-leading efficiency delivers energy savings to the customer
- Optional integrated EMC filters make the unit suitable for commercial and industrial networks
- Brake chopper as standard in frames 2 and higher
- Temperature-controlled fan
- RS-485/Modbus® and CANopen™ as standard
- PI controller as standard
- SmartWire capability
- Removable I/O terminal blocks
- Contactor style power wiring
- Designed for shaded-pole, single-phase motors and permanent split capacitor single-phase motors
- Designed to run surface mounted (SPM) and rotor in-built (IPM) permanent magnet motors ③

Standards and Certifications

Product

- Complies with EN61800-3 (2004)

EMC (At Default Settings)

- EMC Category C1, C2 and C3 at default settings (1 m, 5 m, 25 m)

Safety ①

- 61800-5-1
- EN 60529
- CE
- UL
- cUL
- UkrSepro
- c-Tick
- RoHS compliant

Notes

① See unit nameplate for more detailed approvals.
② Available June 2015.
③ Available September 2015.

Product Selection

IP20

DC1 Series IP20 Enclosure Drives ①

hp ②	kW	Volts	100% Continuous Current In (A)	Frame Size ③	Catalog Number
0.5	0.37	115 V single-phase in/ ④ 115 V single-phase out	7	1	**DC1-S17D0NN-A20N**
0.75	0.55		10.5	2	**DC1-S1011NB-A20N**
0.5	0.37	200–240 V single-phase in/ ④ 200–240 V single-phase out	4.3	1	**DC1-S24D3NN-A20N** ⑤
1	0.75		7	1	**DC1-S27D0NN-A20N** ⑤
1.5	1.1		10	2	**DC1-S2011NB-A20N** ⑤
0.5	0.37	115 V single-phase in/ 230 V three-phase out	2.3	1	**DC1-1D2D3NN-A20N**
1	0.75		4.3	1	**DC1-1D4D3NN-A20N**
1.5	1.1		5.8	2	**DC1-1D5D8NB-A20N**
0.5	0.37	200–240 V single-phase in/ 230 V three-phase out	2.3	1	**DC1-122D3NN-A20N** ⑤
1	0.75		4.3	1	**DC1-124D3NN-A20N** ⑤
2	1.5		7	1	**DC1-127D0NN-A20N** ⑤
2	1.5		7	2	**DC1-127D0NB-A20N** ⑤
3	2.2		10.5	2	**DC1-12011NB-A20N** ⑤
5	4		15	3	**DC1-12015NB-A20N**
0.5	0.37	200–240 V three-phase in/ 230 V three-phase out	2.3	1	**DC1-322D3NN-A20N**
1	0.75		4.3	1	**DC1-324D3NN-A20N**
2	1.5		7	1	**DC1-327D0NN-A20N**
2	1.5		7	2	**DC1-327D0NB-A20N** ⑤
3	2.2		10.5	2	**DC1-32011NB-A20N** ⑤
5	4		18	3	**DC1-32018NB-A20N** ⑤
7.5	5.5		24	4	**DC1-32024NB-A20N** ⑤⑥
10	7.5		30	4	**DC1-32030NB-A20N** ⑤⑥
15	11		46	4	**DC1-32046NB-A20N** ⑤⑥
1	0.75	380–480 V three-phase in/ 480 V three-phase out	2.2	1	**DC1-342D2NN-A20N** ⑤
2	1.5		4.1	1	**DC1-344D1NN-A20N** ⑤
2	1.5		4.1	2	**DC1-344D1NB-A20N** ⑤
3	2.2		5.8	2	**DC1-345D8NB-A20N** ⑤
5	4		9.5	2	**DC1-349D5NB-A20N** ⑤
7.5	5.5		14	3	**DC1-34014NB-A20N** ⑤
10	7.5		18	3	**DC1-34018NB-A20N** ⑤
15	11		24	3	**DC1-34024NB-A20N** ⑤
20	15		30	4	**DC1-34030NB-A20N** ⑤⑥
25	18.5		39	4	**DC1-34039NB-A20N** ⑤⑥
30	22		46	4	**DC1-34046NB-A20N** ⑤⑥

DX-NET-SWD3

SmartWire-DT DC1 VFD Module

SmartWire-DT module for connecting DC1 variable frequency drive (VFD) to the SmartWire-DT network.

Description	For Use With …	Pkg. Qty.	Catalog Number
1-0-A switch for manual or automatic operation	DE1 DC1	1	**DX-NET-SWD3**

Notes

① These are constant torque/high overload rated drives.
② For all applications, select the unit such that the motor current is less than or equal to the rated continuous output current.
③ Brake chopper circuit available as standard in frames 2 and 3.
④ Only for use with shaded pole or split capacitor single-phase motors.
⑤ RFI version available. Substitute with DC1-*****F*-**** for this option.
⑥ Frame size 4 available June 2016.

PowerXL DA1 Series Drives

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EMS Electronic Motor Starters	**V7-T9-26**
DS7 Soft Start Controllers	**V7-T9-27**
DE1 Variable Speed Starters	**V7-T9-28**
DC1 Variable Frequency Drives	**V7-T9-30**
DA1 Variable Frequency Drives	
Product Selection	**V7-T9-33**

9

DA1 Variable Frequency Drives

Product Description

Eaton's PowerXL® DA1 variable frequency drives are the next generation of drives specifically engineered for today's machinery applications.

DA1 is the perfect match for demanding OEM applications. High-performance processor, safe torque off, multiple fieldbus protocols including SmartWire-DT, sensorless vector control and the possibility to operate permanent magnet motors are sure to leave a lasting impression.

Models rated at 480 volts, three-phase, 50/60 Hz are available in sizes ranging from 1 to 15 hp. Models rated at 240 volts, single- or three-phase, 50/60 Hz are available in sizes ranging from 0.5 to 7.5 hp. Models rated at 575 volts, three-phase, 50/60 Hz are available in sizes ranging from 1 to 20 hp.

Features

- Compact, space-saving design
- Rugged and reliable—200% for 4 s 50 °C rated
- DIN rail and screw mountable (FS1 and FS2)
- Side-by-side installation
- Industry-leading efficiency delivers energy savings to the customer
- Integrated EMC filters make the unit suitable for commercial and industrial networks
- Brake chopper as standard
- Temperature-controlled fan
- RS-485/Modbus® and CANopen™ as standard
- PID controller as standard
- Removable I/O terminal blocks
- Contactor style power wiring
- 200% torque at zero speed
- Designed to run surface mounted (SPM) and rotor in-built (IPM) permanent magnet motors
- PLC programming
- Closed loop
- Conformal coated boards
- Optional SmartWire-DT connection module

Standards and Certifications

Product

- Complies with EN61800-3 (2004)

EMC (At Default Settings)

- EMC Category C1, C2 and C3 at default settings (1 m, 5 m, 25 m)

Safety ①

- 61800-5-1
- EN 60529
- CE
- UL
- cUL
- DNV
- UkrSepro
- c-Tick
- RoHS compliant

c UL us Listed CE RoHS COMPLIANT

Note

① See unit nameplate for more detailed approvals.

Product Selection

IP20

DA1 Series IP20 Enclosure Drives ①

hp ②	kW	Volts	100% Continuous Current In (A)	Frame Size ③	Catalog Number
1	0.75	200–240 V single-phase in/ 230 V three-phase out	4.3	2	**DA1-124D3FB-A20C**
2	1.5		7	2	**DA1-127D0FB-A20C**
3	2.2		10.5	2	**DA1-12011FB-A20C**
1	0.75	200–240 V three-phase in/ 230 V three-phase out	4.3	2	**DA1-324D3FB-A20C**
2	1.5		7	2	**DA1-327D0FB-A20C**
3	2.2		10.5	2	**DA1-32011FB-A20C**
5	4		18	3	**DA1-32018FB-A20C**
7.5	5.5		24	3	**DA1-32024FB-A20C**
1	0.75	380–480 V three-phase in/ 460 V three-phase out	2.2	2	**DA1-342D2FB-A20C**
2	1.5		4.1	2	**DA1-344D1FB-A20C**
3	2.2		5.8	2	**DA1-345D8FB-A20C**
5	4		9.5	2	**DA1-349D5FB-A20C**
7.5	5.5		14	3	**DA1-34014FB-A20C**
10	7.5		18	3	**DA1-34018FB-A20C**
15	11		24	3	**DA1-34024FB-A20C**
1	0.75	500–600 V three-phase in/ 575 V three-phase out	2.1	2	**DA1-352D1NB-A20C**
2	4.5		3.1	2	**DA1-353D1NB-A20C**
3	2.2		4.1	2	**DA1-354D1NB-A20C**
5	4		6.5	2	**DA1-356D5NB-A20C**
7.5	5.5		9	2	**DA1-359D0NB-A20C**
10	7.5		12	3	**DA1-35012NB-A20C**
15	11		17	3	**DA1-35017NB-A20C**
20	15		22	3	**DA1-35022NB-A20C**

DX-NET-SWD_

SmartWire-DT DA1 VFD Modules

Description	For Use With …	Pkg. Qty.	Catalog Number
1-0-A switch for manual or automatic operation	DA1	1	**DX-NET-SWD1**

Notes

① These are constant torque/high overload rated drives.
② For all applications, select the unit such that the motor current is less than or equal to the rated continuous output current.
③ Brake chopper circuit available as standard in frames 2 and 3.

Pilot Device Modules

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M22 Contact and LED Modules	
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Accessories	**V7-T9-36**
M22 Control Stations (8-Conductor)	**V7-T9-37**

Pilot Device Modules

M22 Contact and LED Modules

Product Description

Pilot device modules fit onto standard M22 and M22M (metal bezel) pilot devices. Single and double contact modules with and without LEDs are available to meet a wide variety of control circuit requirements.

These modules facilitate direct connection to the SmartWire-DT flat cable and eliminate the traditional point-to-point wiring to the PLC input and output modules.

Features

- Built-in diagnostic bi-color LEDs on each module
- Connection to SmartWire-DT flat cable

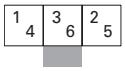
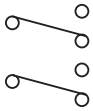
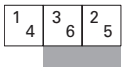
M22 and M22M Pushbuttons—Non-Illuminated and Illuminated

See Volume 7—Logic Control, Operator Interface and Connectivity Solutions, CA08100008E, Tab 1 for complete product selection.

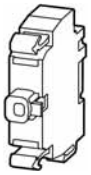
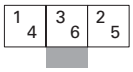
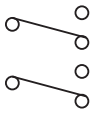
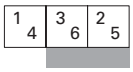
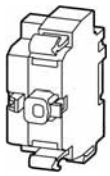
Product Selection

M22 Pilot Device Modules Connections

M22 Front Mount Contact Modules, without LEDs

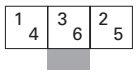
	Number of SPDT Contacts	Contact Symbol	Mounting Positions	Pkg. Qty.	Catalog Number
M22-SWD-K11	**Front Mount**				
	1			20	**M22-SWD-K11**
M22-SWD-K22	2			10	**M22-SWD-K22**
					

M22 Front Mount Contact Modules, with LEDs

	Number of SPDT Contacts	Contact Symbol	Mounting Positions	Color LED	Pkg. Qty.	Catalog Number
M22-SWD-K11LED_	**Front Mount**					
	1			○	20	**M22-SWD-K11LED-W**
				●		**M22-SWD-K11LED-B**
				●		**M22-SWD-K11LED-G**
				●		**M22-SWD-K11LED-R**
M22-SWD-K22LED_	2			○	10	**M22-SWD-K22LED-W**
				●		**M22-SWD-K22LED-B**
				●		**M22-SWD-K22LED-G**
				●		**M22-SWD-K22LED-R**

M22 Front Mount LED Modules

M22-SWD-LED_

Mounting Positions	Color LED	Pkg. Qty.	Catalog Number
Front Mount			
	○	20	**M22-SWD-LED-W**
	●		**M22-SWD-LED-B**
	●		**M22-SWD-LED-G**
	●		**M22-SWD-LED-R**

M22 Potentiometer

	Description	Pkg. Qty.	Catalog Number
M22-R-SWD-R 	M22 SmartWire-DT complete potentiometer (front element, potentiometer module and adapter)	1	**M22-R-SWD-R**
M22-R-SWD 	M22 potentiometer front element	1	**M22-R-SWD**
M22-SWD-R 	M22 potentiometer SmartWire-DT module	1	**M22-SWD-R**

M22 Tuner Selectors

	Description	Pkg. Qty.	Catalog Number
M22-INC-SWD-INC 	M22 SmartWire-DT complete tuner selector	1	**M22-INC-SWD-INC**
M22-INC-SWD 	M22 tuner selector front element	1	**M22-INC-SWD**
M22-SWD-R 	M22 tuner selector SmartWire-DT module	1	**M22-SWD-INC**

Accessories

M22-SWD-A4


Contact Block/Module Adapter

For M22 four-way pushbuttons and joysticks using SmartWire-DT, a special contact block/module adapter is required.

Description	Pkg. Qty.	Catalog Number
Four-way adapter for SmartWire-DT modules	10	**M22-SWD-A4**

M22 Control Stations

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M22 Contact and LED Modules	**V7-T9-34**
M22 Control Stations (8-Conductor)	**V7-T9-37**

M22 Control Stations (8-Conductor)

Product Description

M22 and M22M control stations are available in 1, 2, 3, 4 and 6-element configurations. Standard M22 surface mount enclosures accept the SmartWire-DT printed circuit board (PCB) interface. The M22 base mount modules connect to the PCB and attach to the base of the enclosure.

These PCB require the use of the 8-conductor round cable and can be wired directly with quick disconnect enclosure bushings.

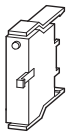
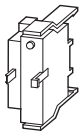
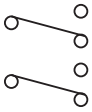
Remote pushbutton enclosures can also be constructed and connected to the 5-conductor round SmartWire-DT On Machine cabling system. See **Page V7-T9-49** for details.

Product Selection

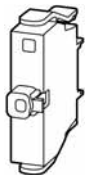
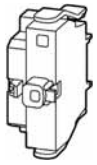
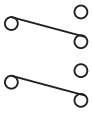
Surface Mounting Enclosures

	Description	Catalog Number
M22-IY1-PG 	Yellow top, black base for emergency-stop operators	**M22-IY1**
M22-IY-PG 	One-element enclosure	**M22-I1**
	Two-element enclosure	**M22-I2**
	Three-element enclosure	**M22-I3**
	Four-element enclosure	**M22-I4**
	Six-element enclosure	**M22-I6**

M22 Base Mount Contact Modules, without LEDs

	Number of SPDT Contacts	Contact Symbol	Mounting Positions	Pkg. Qty.	Catalog Number
M22-SWD-KC11 	**Base Mount**				
	1		2 3 1	20	**M22-SWD-KC11**
M22-SWD-KC22 	2		2 3 1	10	**M22-SWD-KC22**

M22 Base Mount Contact Modules, with LEDs

	Number of SPDT Contacts	Contact Symbol	Mounting Positions	Color LED	Pkg. Qty.	Catalog Number
M22-SWD-K11LED_ 	**Base Mount**					
	1		2 3 1	○	20	**M22-SWD-K11LEDC-W**
				●		**M22-SWD-K11LEDC-B**
				●		**M22-SWD-K11LEDC-G**
				●		**M22-SWD-K11LEDC-R**
M22-SWD-K22LED_ 	2		2 3 1	○	10	**M22-SWD-K22LEDC-W**
				●		**M22-SWD-K22LEDC-B**
				●		**M22-SWD-K22LEDC-G**
				●		**M22-SWD-K22LEDC-R**

M22 Base Mount LED Modules

	Mounting Positions	Color LED	Pkg. Qty.	Catalog Number
M22-SWD-LEDC_ 	**Base Mount**			
	2 3 1	○	20	**M22-SWD-LEDC-W**
		●		**M22-SWD-LEDC-B**
		●		**M22-SWD-LEDC-G**
		●		**M22-SWD-LEDC-R**

Control Station PCBs

PCB

Description	Pkg. Qty.	Catalog Number
For surface mounting M22 enclosures and for base-mount pilot device modules. Includes a built-in switchable terminating resistor.		
Element enclosure PCB 1	1	**M22-SWD-I1-LP01**
Element enclosure PCB 2	1	**M22-SWD-I2-LP01**
Element enclosure PCB 3	1	**M22-SWD-I3-LP01**
Element enclosure PCB 4	1	**M22-SWD-I4-LP01**
Element enclosure PCB 6	1	**M22-SWD-I6-LP01**

Enclosure Bushings

Description	Pkg. Qty.	Catalog Number
Bushing Socket  Enclosure bushing, 8-pole socket, M20	1	**SWD4-SF8-20**
Bushing Socket  Enclosure bushing, 8-pole plug, M20	1	**SWD4-SM8-20**
Cord Grip  Round cable cord grip, M20	1	**V-M20**

Stacklight Modules with SmartWire-DT

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Description ***Page***

Stacklight Modules with SmartWire-DT
SL4 and SL7 Stacklight Base Modules
Product Selection **V7-T9-41**

Stacklight Base Modules with SmartWire-DT

Product Description

SL7 and SL4 Stacklights from Eaton provide reliable control over all key processes and machine availability. Now available in two sizes, 70 mm (SL7) and 40 mm (SL4), the new stacklights are engineered to keep you informed about potential material requirements, downtime and hazards. Modules are available in a wide selection of audible, illuminating and mounting options that are well suited to adapt to any industrial application.

Highly Modular and Versatile Line

- Easily configurable components
- Simple bayonet mounting mechanism for quick assembly
- Flexible mounting and lighting options
- Volume-adjustable alarms

Optimal Performance in Rugged Applications

- All elements have IP66 and UL Type 4/4X/13 ratings for protection against strong jets of water
- Bright and efficient LEDs with a lifespan of up to 100,000 hours
- High-performance LEDs for maximum illumination in direct sunlight
- Acoustic modules with up to 100 dB sound levels
- Operating temperatures: –22 to +140 °F (–30 to +60 °C)

Features

- Six lens colors: red, amber, yellow, green, blue, white
- Continuous, flashing, strobe and multi-strobe lighting functions
- Mono-tone, dual-tone and multi-tone audible alarms
- LED or incandescent lighting options
- Control up to five modules on a single stack

Benefits

- Simplified twist-and-lock assembly, no tools required
- Compact components reduce inventory requirements and increase flexibility
- Versatile hardware for quick installation and minimized downtime
- New slim 40 mm size is ideal for applications with constrained space
- Lean automation with SmartWire-DT connectivity
- Ideal for indoor and outdoor usage

Standards and Certifications

- UL 508—File No. E29184
- IEC/EN 60947-5-1
- CSA C22.2 No. 14-10
- CSA C22.2 No. 94-91
- CSA Class No. NKCR7

c UL us Listed CE CSA

SL4 and SL7

See Volume 7—Logic Control, Operator Interface and Connectivity Solutions, CA08100008E, Tab 2 for complete product selection.

Stacklight Base Modules

Product Selection

SL4 and SL7—SmartWire-DT Versions for Control Cabinet Mounting

SL4 and SL7 stacklight base modules connect directly to the SmartWire-DT flat cable with two flat plug sockets. The stacklight can be configured with up to five 24 Vdc light modules including an alarm unit. Jumpers on the base module select if the stacklight is powered from the flat cable or an external 24 Vdc power supply.

Stacklights with up to three modules can be connected using a M12 connector to the SmartWire-DT IP6K9K machine mount modules, see **Pages V7-T9-53** and **V7-T9-54**.

	Description	Tube Length	For Use With	Catalog Number
SL4-SWD 	Base with base adapter for slipping onto place (rapid mounting and wiring system) Blade terminal SWD4-8MF2 Max. 0.3 A per module External power supply connectable (24 Vdc)	100 mm	SL4 40 mm diameter stacklights 24 Vdc See Volume 7, Tab 2 for light and alarm module selection	**SL4-SWD**
SL7-SWD 	Base with base adapter for slipping onto place (rapid mounting and wiring system) Blade terminal SWD4-8MF2 Max. 0.3 A per module External power supply connectable (24 Vdc)	100 mm	SL7 70 mm diameter stacklights 24 Vdc See Volume 7, Tab 2 for light and alarm module selection	**SL7-SWD**

SL4 and SL7—SmartWire-DT Versions for On Machine Mounting

Remote stacklights can also be constructed and connected to the 5-conductor round SmartWire-DT On Machine cabling system when the stacklight is located away from the main machine control cabinet. See **Page V7-T9-49** for details.

On Machine Components

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Other I/O Connections	**V7-T9-46**
Valve Connectors	**V7-T9-47**
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Power Cables—Externally Powered I/O Models	**V7-T9-50**
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On Machine Components

Product Description

At the edge of the control cabinet, the SmartWire-DT system transitions from the 8-conductor flat cable to a 5-conductor round cable with standard DC M12 barrel connectors, using simple transition adapters that mount through the panel wall.

This round cable has five conductors, uses standard DC M12 barrel connectors, and is 300 V rated. It is used outside the control panel to connect machine mount (IP6K9K washdown-rated) I/O modules to the SmartWire-DT system for use with peripherals such as sensors, enclosed pushbuttons, remote enclosed contactors, pneumatic and hydraulic valves, stacklights and other remote devices. This single cable is used both to provide power to connected devices and to carry I/O signals.

Machine mountable I/O modules are connected as nodes on the SmartWire-DT network and allow standard or generic devices to be connected to the SmartWire-DT system. They can be connected anywhere around the machine with up to 2000 ft and 99 machine mount I/O modules possible with a single cable connection.

Features

- Modules with digital and analog channels to accommodate a wide variety of input and output devices
- Modules available in, single connector (1–2 I/O channel), dual connector (2–4 I/O channel), quad connector (4–8 I/O channel), and octal connector (8–16 I/O channel) versions to size exactly to your machine I/O needs at a particular device mounting location (quad and octal versions available in Q4 2016)
- Quad and octal block versions with separate power connection for discrete control of dedicated output channels
- Compatible with a wide range of sensors and actuators for easy integration into any machine design
- Most models offer 2 I/O channels per connection point when used with accessory splitters
- Special version available with 3 I/O channels on a single connection point to be compatible with 3-element stacklights and 3-element pushbutton stations using a single I/O cable
- Versions with configurable I/O channels to allow for selection as input or output in any combination
- Integrated 24 Vdc power and communications with single 5-conductor cable using standard DC M12 connectors
- Complete Plug & Play solution, integrated with in panel SmartWire-DT wiring components including auto-addressing feature
- Connection of up to 99 modules and up to 2000 feet of cable on a single branch of the wiring system
- Built-in diagnostic bi-color LEDs on each module
- IP6K9K enclosure ratings for use in harsh washdown applications
- Tool-free mounting options
- Vertical and flat mounting possible

Product Selection

Machine Mount I/O Modules—Digital

SmartWire-DT I/O modules for connection to most digital input and output devices.

	Description	Number of Dedicated Inputs	Number of Dedicated Outputs	Number of Configurable Input/Output Channels	Catalog Number
EU1E-SWD_ 	One digital input channel Messages: Status of the digital input 1 Commands: None	1	0	0	**EU1E-SWD-1DX**
	Two digital input channels Messages: Status of the digital inputs 1 and 2 Commands: None	2	0	0	**EU1E-SWD-2DX**
	Two configurable digital input/output channels Messages: Status of the digital inputs 1 and/or 2 (if configured as inputs) Commands: Actuation of outputs 1 and/or 2 (if configured as outputs)	0	0	2	**EU1E-SWD-2DD**
EU2E-SWD_ 	Two digital input channels Messages: Status of the digital inputs 1 and 2 Commands: None	2	0	0	**EU2E-SWD-2DX**
	Four digital input channels Messages: Status of the digital inputs 1, 2, 3 and 4 Commands: None	4	0	0	**EU2E-SWD-4DX**
	Four configurable digital input/output channels Messages: Status of the digital inputs 1 and/or 2 and/or 3 and/or 4 (if configured as inputs) Commands: Actuation of outputs 1 and/or 2 and/or 3 and/or 4 (if configured as outputs)	0	0	4	**EU2E-SWD-4DD**
	Four configurable digital input/output channels Messages: Status of the digital inputs 1 and/or 2 and/or 3 and/or 4 (if configured as inputs) Commands: Actuation of outputs 1 and/or 2 and/or 3 and/or 4 (if configured as outputs) Note: I/O channels are arranged with channel 1 wired to I/O connector X1 and channels 2, 3 and 4 wired to I/O connector X2	0	0	4	**EU2E-SWD-4DD-1**
EU6E-SWD_ 	Eight digital input channels Messages: Status of the digital inputs 1, 2, 3, 4, 5, 6, 7 and 8 Commands: None	8	0	0	**EU6E-SWD-8DX**
	Eight configurable digital input/output channels Messages: Status of the digital inputs 1 and/or 2 and/or 3 and/or 4 and/or 5 and/or 6 and/or 7 and/or 8 (if configured as inputs) Commands: Actuation of the digital outputs 1 and/or 2 and/or 3 and/or 4 and/or 5 and/or 6 and/or 7 and/or 8 (if configured as outputs)	0	0	8	**EU6E-SWD-8DD**

Machine Mount I/O Modules—Digital, continued

SmartWire-DT I/O modules for connection to most digital input and output devices.

	Description	Number of Dedicated Inputs	Number of Dedicated Outputs	Number of Configurable Input/Output Channels	Catalog Number
EU6E-SWD_ 	Two digital input channels, two digital output channels Messages: Status of the digital inputs 1 and 2 Commands: Actuation of the digital outputs 1 and 2 Note: This model has an external power connection for power to output channels only	2	2	0	**EU6E-SWD-2D2D-1**
	Two digital input channels, two digital output channels Messages: Status of the digital inputs 1 and 2 Commands: Actuation of the digital outputs 1 and 2 Note: This model has an external power connection for power to output channels only Note: This model has high-current output channels rated for 2 A each channel	2	2	0	**EU6E-SWD-2D2D-2**
	Four digital output channels Messages: None Commands: Actuation of the digital outputs 1, 2, 3 and 4 Note: This model has an external power connection for power to output channels only	0	4	0	**EU6E-SWD-4XD-1**
	Four digital output channels Messages: None Commands: Actuation of the digital outputs 1, 2, 3 and 4 Note: This model has an external power connection for power to output channels only Note: This model has high-current output channels rated for 2 A each channel	0	4	0	**EU6E-SWD-4XD-2**
	Four digital input channels, four digital output channels Messages: Status of the digital inputs 1, 2, 3 and 4 Commands: Actuation of the digital outputs 1, 2, 3 and 4 Note: This model has an external power connection for power to output channels only	4	4	0	**EU6E-SWD-4D4D-1**
	Four digital input channels, four digital output channels Messages: Status of the digital inputs 1, 2, 3 and 4 Commands: Actuation of the digital outputs 1, 2, 3 and 4 Note: This model has an external power connection for power to output channels only Note: This model has high-current output channels rated for 2 A each channel	4	4	0	**EU6E-SWD-4D4D-2**
	Eight digital output channels Messages: None Commands: Actuation of the digital outputs 1, 2, 3, 4, 5, 6, 7 and 8 Note: This model has an external power connection for power to output channels only	0	8	0	**EU6E-SWD-8XD-1**
EU8E-SWD_ 	Sixteen digital input channels Messages: Status of the digital inputs 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 and 16 Commands: None	16	0	0	**EU8E-SWD-16DX**
	Sixteen configurable digital input/output channels Messages: Status of the digital inputs 1 and/or 2 and/or 3 and/or 4 and/or 5 and/or 6 and/or 7 and/or 8 and/or 9 and/or 10 and/or 11 and/or 12 and/or 13 and/or 14 and/or 15 and/or 16 (if configured as inputs) Commands: Actuation of the digital outputs 1 and/or 2 and/or 3 and/or 4 and/or 5 and/or 6 and/or 7 and/or 8 and/or 9 and/or 10 and/or 11 and/or 12 and/or 13 and/or 14 and/or 15 and/or 16 (if configured as outputs)	0	0	16	**EU8E-SWD-16DD**

Machine Mount I/O Modules—Digital, continued

SmartWire-DT I/O modules for connection to most digital input and output devices.

	Description	Number of Dedicated Inputs	Number of Dedicated Outputs	Number of Configurable Input/Output Channels	Catalog Number
EU8E-SWD_ 	Four digital input channels, four digital output channels Messages: Status of the digital inputs 1, 2, 3 and 4 Commands: Actuation of the digital outputs 1, 2, 3 and 4 Note: This model has an external power connection for power to output channels only	4	4	0	**EU8E-SWD-4D4D-1**
	Eight digital input channels, eight digital output channels Messages: Status of the digital inputs 1, 2, 3, 4, 5, 6, 7 and 8 Commands: Actuation of the digital outputs 1, 2, 3, 4, 5, 6, 7 and 8 Note: This model has an external power connection for power to output channels only	8	8	0	**EU8E-SWD-8D8D-1**
	Eight digital output channels Messages: None Commands: Actuation of the digital outputs 1, 2, 3, 4, 5, 6, 7 and 8 Note: This model has an external power connection for power to output channels only	0	8	0	**EU8E-SWD-8XD-1**
	Sixteen digital output channels Messages: None Commands: Actuation of the digital outputs 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 and 16 Note: This model has an external power connection for power to output channels only	0	16	0	**EU8E-SWD-16XD-1**

Machine Mount I/O Modules—Analog

SmartWire-DT I/O modules for connection to various analog input and output devices.

	Description	Number of Dedicated Inputs	Number of Dedicated Outputs	Number of Configurable Input/Output Channels	Catalog Number
EU1E-SWD_ 	One analog input channel 0–10 Vdc Messages: Analog input level Commands: None	1	0	0	**EU1E-SWD-1AX-1**
	One analog input channel 0–20 mA Messages: Analog input level Commands: None	1	0	0	**EU1E-SWD-1AX-2**
	One analog output channel 0–10 Vdc Messages: None Commands: Analog output level	0	1	0	**EU1E-SWD-1XA-1**
	One analog output channel 0–20 mA Messages: None Commands: Analog output level	0	1	0	**EU1E-SWD-1XA-2**
	One encoder input channel 30 kHz Messages: Encoder count signals Commands: None	1	0	0	**EU1E-SWD-1CX**
EU2E-SWD_ 	Two RTD temperature input channels Messages: Temperature input level Commands: None	2	0	0	**EU2E-SWD-2PT**

I/O Splitters

To allow for use of both available channels on applicable digital input/output modules.

SWD4-SP_

Description	Pkg Qty.	Catalog Number
Combines two devices into a single I/O connection point. Both device connections are 4-pin DC M12. Power is common between devices, and the splitter module is wired to Pin 4 for each connected sensor, actuator or other device.	1	**SWD4-SP-4124**
Combines two devices into a single I/O connection point. Both device connections are 4-pin DC M12. Power is common between devices, and the splitter module is wired to Pin 2 for each connected sensor, actuator or other device.	1	**SWD4-SP-4122**
Combines two devices into a single I/O connection point. Both device connections are 4-pin M8. Power is common between devices, and the splitter module is wired to Pin 4 for each connected sensor, actuator or other device.	1	**SWD4-SP-4084**
Combines two devices into a single I/O connection point. Both device connections are 4-pin M8. Power is common between devices, and the splitter module is wired to Pin 2 for each connected sensor, actuator or other device.	1	**SWD4-SP-4082**
Combines two devices into a single I/O connection point. Both device connections are 3-pin M8. Power is common between devices, and the splitter module is wired to Pin 2 for each connected sensor, actuator or other device.	1	**SWD4-SP-3084**

Other I/O Connections

For connection to I/O devices with and without built-in M12 connections.

SWD4-PR_

SWD4-2LR5-1-2S

SWD4-1LR5-S

V-M20

Description	Pkg Qty.	Catalog Number
Enclosure and Remote Device M12 Receptacles		
M12 5-pin male receptacle, 1/2 inch NPT back threads, 3.2 ft (1 m) wiring leads. For use with Eaton SL4/SL7 Series Stacklights with post-mount bases. Also for connection of remote panel Contactors and other devices to On Machine I/O modules.	1	**SWD4-PRM5-1-S**
M12 5-pin female receptacle, 1/2 inch NPT back threads, 3.2 ft (1 m) wiring leads. For use where needed in remote panel wiring situations.	1	**SWD4-PRF5-1-S**
M12 5-pin male receptacle, M20 front threads, 5 inch wiring leads. For use with Eaton SL4/SL7 Series Stacklights with fast-mount bases. Also for use with Eaton M22 Series remote pushbutton enclosures.	1	**SWD4-PRM5-2-S**
M12 5-pin female receptacle, M20 front threads, 5 inch wiring leads. For use where needed in remote enclosure wiring situations.	1	**SWD4-PRF5-2-S**
I/O Device Cables Double-Ended		
6 in (0.1 m) length	1	**SWD4-M1LR5-1-2S**
1 ft (0.3 m) length	1	**SWD4-M3LR5-1-2S**
2 ft (0.6 m) length	1	**SWD4-M6LR5-1-2S**
3.2 ft (1 m) length	1	**SWD4-1LR5-1-2S**
6.5 ft (2 m) length	1	**SWD4-2LR5-1-2S**
I/O Device Cables Single-Ended		
1 ft (0.3 m) length	1	**SWD4-M3LR5-S**
2 ft (0.6 m) length	1	**SWD4-M6LR5-S**
3.2 ft (1 m) length	1	**SWD4-1LR5-S**
6.5 ft (2 m) length	1	**SWD4-2LR5-S**
Cord Grips		
Round cable cord grip, M20	1	**V-M20**
Round cable cord grip, 1/2 inch NPT	1	**V-12NPT**

Valve Connectors

For connections to Proportional and ON/OFF valves with EN 175301803 / DIN 43650, Industry Standard and M12 connections.

EU3E-SWD-X1H-1

Description	Pkg Qty.	Catalog Number
Proportional/ON/OFF Valve Connectors EN/DIN		
Proportional/ON/OFF Valve Connectors are designed for compact, electronic control of non-feedback hydraulic proportional and switching valves conforming to ISO 4400/DIN 43650. No separate T-Connector is required as the SmartWire-DT round bus cables found on **Page V7-T9-49** wire directly in and out of two M12 connection points.		
Interface: ISO 4400/DIN 43650 Type A (18 mm)	1	**EU3E-SWD-X1H-1**

SWD4-V_

Description	Valve Power Limit	Pkg Qty.	Catalog Number
ON/OFF Valve Connectors—EN/DIN/IS			
Connectors mount directly to valves and have single M12 connectors for wiring to T-Connectors. When used with standard "I/O Device Cables Double-Ended" listed on **Page V7-T9-46** to make the connection between T-Connectors and these valve connectors, these connectors will support up to 10 W hydraulic and pneumatic valves. When used with "Valve Device Cables Double-Ended" listed below, up to 30 W valves are supported.			
EN 175301803 / DIN 43650 Type A 18 mm (terminal spacing) ON/OFF valve	30 W	1	**SWD4-VA3-1-S**
EN 175301803 / DIN 43650 Type B 10 mm (terminal spacing) ON/OFF valve	30 W	1	**SWD4-VB3-1-S**
Industry standard mini/Form B 11 mm (terminal spacing) ON/OFF valve	30 W	1	**SWD4-VB3-2-S**
EN 175301803 / DIN 43650 Type C 8 mm (terminal spacing) ON/OFF valve	30 W	1	**SWD4-VC3-1-S**
Industry standard sub-micro/Form C 9.4 mm (terminal spacing) ON/OFF valve	30 W	1	**SWD4-VC3-2-S**

SWD4-2LR5-3-2S

Description	Pkg Qty.	Catalog Number
Valve Device Cables Double-Ended		
Connector cables with special wiring to allow higher-wattage valves to be used with standard T-Connectors. In these connectors, all three potential output channels from standard T-Connectors are wired to the valve terminals. Each output channel is nominally rated at 500 mA. If two or three output channels are used and are turned on simultaneously, the use of these special cable versions will connect those multiple outputs to the valve coil terminals. With two channels simultaneously energized, up to 20 W valves are supported. With three channels simultaneously energized, up to 30 W valves are supported.		
1 ft (0.3 m) length	1	**SWD4-M3LR5-3-2S**
2 ft (0.6 m) length	1	**SWD4-M6LR5-3-2S**
3.2 ft (1 m) length	1	**SWD4-1LR5-3-2S**
6.5 ft (2 m) length	1	**SWD4-2LR5-3-2S**

EU1S-SWD-PF1-2

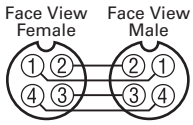
Machine Mount Powerfeed Modules

Machine mount Powerfeed modules feed auxiliary 24 Vdc power into the On Machine SmartWire-DT round cable system. Supplemental 24 Vdc power is only needed if the total power consumption of devices connected to the On Machine SmartWire-DT system exceeds the available power from the main control cabinet connection. These modules can be connected at any location in the system, and there is no limit to the number of Powerfeed modules that can be connected in a system branch.

Description	Maximum Powerfeed Capacity	Pkg Qty.	Catalog Number
Provides connection point for external 24 Vdc power supply input.	4 A	1	**EU1S-SWD-PF1-2**

Powerfeed Cables

Powerfeed cables are used to connect from a source of 24 Vdc power to the power input connection on the EU1S-SWD-PF1-2 Powerfeed module.

Voltage Style	Number of Pins	Gauge	Length	Pin Configuration/Wire Colors (Face View Female Shown)	PVC Jacket Catalog Number	PUR Jacket Catalog Number
CSDS4A4_	**Single-Ended Powerfeed Cable, Straight Female M12 Connection**					
 DC	4-pin, 4-wire	22 AWG	6.0 ft (2 m)	 1-Brown 2-White 3-Blue 4-Black	**CSDS4A4CY2202**	**CSDS4A4RY2202**
			16.4 ft (5 m)		**CSDS4A4CY2205**	**CSDS4A4RY2205**
			32.8 ft (10 m)		**CSDS4A4CY2210**	**CSDS4A4RY2210**
			65.6 ft (20 m)		**CSDS4A4CY2220**	—
CSDR4A4_	**Single-Ended Powerfeed Cable, Right Angle Female M12 Connection**					
 DC	4-pin, 4-wire	22 AWG	6.0 ft (2 m)	 1-Brown 2-White 3-Blue 4-Black	**CSDR4A4CY2202**	**CSDR4A4RY2202**
			16.4 ft (5 m)		**CSDR4A4CY2205**	**CSDR4A4RY2205**
			32.8 ft (10 m)		**CSDR4A4CY2210**	**CSDR4A4RY2210**
CSDS4A4_	**Double-Ended Powerfeed Cable, Straight M12 Connections** [1]					
 DC	4-pin, 4-wire	22 AWG	3.0 ft (1 m)	 Face View Female Face View Male	**CSDS4A4CY2201-D**	—
			5.0 ft (1.5 m)		**CSDS4A4CY2201.5-D**	—
			6.0 ft (2 m)		**CSDS4A4CY2202-D**	—
			10.0 ft (3 m)		**CSDS4A4CY2203-D**	—
			16.4 ft (5 m)		**CSDS4A4CY2205-D**	—

Panel Transition Components

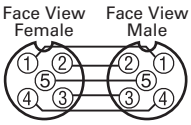
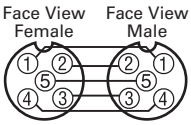
Description	Pkg Qty.	Catalog Number
SWD4-SFL8-12 **Flat-to-Round Cabinet Transition Adapter**		
 To transition between in-cabinet flat cabling and on machine round cabling. Wiring terminals allow external 24 Vdc power supply at this location if desired. Jumper these terminals to utilize 24 Vdc power from the incoming flat cable.	1	**SWD4-SFL8-12**
SWD4-SML8-12 **Round-to-Flat Cabinet Transition Adapter**		
 To transition between on machine round cabling and in-cabinet flat cabling. Wiring terminals allow external 24 Vdc power supply at this location if desired. Jumper these terminals to utilize 24 Vdc power from the incoming round cable.	1	**SWD4-SML8-12**
SWD4-SML5-12 **Cabinet Cable Pass-Through Adapter**		
 For passing the SmartWire-DT round cable connection easily through a panel or a cabinet wall.	1	**SWD4-SML5-12**

Note

[1] SmartWire-DT round bus cables shown on **Page V7-T9-49** have 22 AWG power conductors and can also be used as Powerfeed cables, offering additional length options.

Right Angle Adapter Cables

These adapters are typically used to create a lower profile at the panel transition wiring point.

	Voltage Style	Number of Pins	Gauge	Length	Pin Configuration/Wire Colors (Face View Female Shown)	PVC Jacket Catalog Number
SWD4-M1LR5-RS 	**Right Angle**					
	DC	5-pin	22 AWG	6 in (0.1 m)		**SWD4-M1LR5-RS**
SWD4-M1LR5-SR 	**Micro-Style Right Angle Female/Straight Male**					
	DC	5-pin	22 AWG	6 in (0.1 m)		**SWD4-M1LR5-SR**

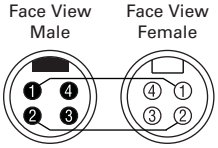
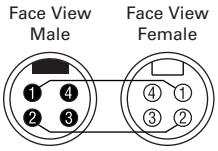
SmartWire-DT Round Bus Cables

These cables are used to connect between the panel transition wiring adapter and the Machine Mount I/O modules on the system.

	Description	Pkg Qty.	Catalog Number
SWD4-_ 	**Round Cable**		
	Each cable is 5-conductor, with one male DC M12 and one female DC M12 connector at each end.		
	6 in (0.1 m) length	1	**SWD4-M1LR5-2S**
	1 ft (0.3 m) length	1	**SWD4-M3LR5-2S**
	2 ft (0.6 m) length	1	**SWD4-M6LR5-2S**
	3.2 ft (1 m) length	1	**SWD4-1LR5-2S**
	4.9 ft (1.5 m) length	1	**SWD4-1M5LR5-2S**
	6.5 ft (2 m) length	1	**SWD4-2LR5-2S**
	9.8 ft (3 m) length	1	**SWD4-3LR5-2S**
	13.1 ft (4 m) length	1	**SWD4-4LR5-2S**
	16.4 ft (5 m) length	1	**SWD4-5LR5-2S**
	32.8 ft (10 m) length	1	**SWD4-10LR5-2S**
	65.6 ft (20 m) length	1	**SWD4-20LR5-2S**
SWD4-XXXLR5 	**Bulk Cable and Field-Wireable Connectors for Non-Standard Cable Lengths**		
	Non-standard cable lengths can be easily constructed using the raw cable and field-installable connectors in this section.		
	Bulk cable (to build non-standard lengths)	Order in meters	**SWD4-XXXLR5**
SWD4-SF5-67 	Female (to terminate raw cable)	1	**SWD4-SF5-67**
SWD4-SM5-67 	Male (to terminate raw cable)	1	**SWD4-SM5-67**

Power Cables—Externally Powered I/O Models

To bring power to and pass power between externally powered EU6E and EU8E models starting on **Page V7-T9-43**.

Current Rating at 600 V	Voltage Style	Number of Pins	Gauge	Length	Pin Configuration/Wire Colors (Face View Female Shown)	Catalog Number
Mini-Style Straight Female						
						
10 A	AC/DC	4-pin, 4-wire	16 AWG	6.5 ft (2 m)	 1-Brown 2-White 3-Blue 4-Black	**SWD4-2LR4P-S**
				13 ft (4 m)		**SWD4-4LR4P-S**
				19.5 ft (6 m)		**SWD4-6LR4P-S**
				32.5 ft (10 m)		**SWD4-10LR4P-S**
				65 ft (20 m)		**SWD4-20LR4P-S**
Mini-Style Right-Angle Female						
						
10 A	AC/DC	4-pin, 4-wire	16 AWG	6.5 ft (2 m)	 1-Brown 2-White 3-Blue 4-Black	**SWD4-2LR4P-R**
				13 ft (4 m)		**SWD4-4LR4P-R**
				19.5 ft (6 m)		**SWD4-6LR4P-R**
				32.5 ft (10 m)		**SWD4-10LR4P-R**
				65 ft (20 m)		**SWD4-20LR4P-R**
Mini-Style Straight Female/Male						
						
10 A	AC/DC	4-pin, 4-wire	16 AWG	1 ft (0.3 m)	 Face View Male / Face View Female	**SWD4-M3LR4P-2S**
				2 ft (0.6 m)		**SWD4-M6LR4P-2S**
				3.2 ft (1 m)		**SWD4-1LR4P-2S**
				4.9 ft (1.5 m)		**SWD4-1M5LR4P-2S**
				6.5 ft (2 m)		**SWD4-2LR4P-2S**
				10 ft (3 m)		**SWD4-3LR4P-2S**
				13 ft (4 m)		**SWD4-4LR4P-2S**
				16.4 ft (5 m)		**SWD4-5LR4P-2S**
				32.5 ft (10 m)		**SWD4-10LR4P-2S**
				65 ft (20 m)		**SWD4-20LR4P-2S**
Mini-Style Right-Angle Female/Male						
						
10 A	AC/DC	4-pin, 4-wire	16 AWG	1 ft (0.3 m)	 Face View Male / Face View Female	**SWD4-M3LR4P-2R**
				2 ft (0.6 m)		**SWD4-M6LR4P-2R**
				3.2 ft (1 m)		**SWD4-1LR4P-2R**
				4.9 ft (1.5 m)		**SWD4-1M5LR4P-2R**
				6.5 ft (2 m)		**SWD4-2LR4P-2R**
				10 ft (3 m)		**SWD4-3LR4P-2R**
				13 ft (4 m)		**SWD4-4LR4P-2R**
				16.4 ft (5 m)		**SWD4-5LR4P-2R**
				32.5 ft (10 m)		**SWD4-10LR4P-2R**
				65 ft (20 m)		**SWD4-20LR4P-2R**

Power Cables—Externally Powered I/O Models, continued

To bring power to and pass power between externally powered EU6E and EU8E models starting on **Page V7-T9-43**.

	Description	Pkg Qty.	Catalog Number
SWD4-XXXLR4P 	**Bulk Cable and Field-Wireable Connectors for Non-Standard Cable Lengths**		
	Non-standard cable lengths can be easily constructed using the raw cable and field-installable connectors in this section.		
	Bulk cable (4-conductor, 16 AWG)	Order in meters	**SWD4-XXXLR4P**
SWD4-SF4P-67 	Female straight (to terminate raw cable)	1	**SWD4-SF4P-67**
SWD4-SM4P-67 	Male straight (to terminate raw cable)	1	**SWD4-SM4P-67**
	Female right angle (to terminate raw cable)	1	**SWD4-SF4P-67R**
	Male right angle (to terminate raw cable)	1	**SWD4-SM4P-67R**

Other Power Cabling Connections

To provide a panel transition for the 24 Vdc power feed to I/O modules with external power connection.

	Voltage Style	Number of Pins	Gauge	Length	Mounting Hole Size	Pin Configuration/Wire Colors (Face View Female Shown)	Catalog Number
	Panel Transition Adapter						
	To easily bring power for externally powered I/O modules through a panel wall.						
SWD4-PRF4P-1-S 	AC/DC	4-pin, 4-wire	16 AWG	3.2 ft (1 m)	1/2-14 in NPT back threads	 1-Brown 2-White 3-Blue 4-Black	**SWD4-PRF4P-1-S**

Other System Components

	Description	Pkg Qty.	Catalog Number
SWD4-RC5-10 	**Bus Termination Module**		
	To terminate the end of an on machine SmartWire-DT round cable network branch	1	**SWD4-RC5-10**
	Connector Caps		
SWD4-ACAP-10 	Active cap—allows for remote monitoring of the health of an unused device connection on a machine mount I/O module over the SmartWire-DT network	1	**SWD4-ACAP-10**
SWD4-PCAP-F 	Passive cap—to provide physical protection and sealing if nothing is connected to the female M12 connector on a machine mount I/O module	1	**SWD4-PCAP-F**
SWD4-PCAP-M 	Passive cap—to provide physical protection and sealing if nothing is connected to the male M12 connector on a machine mount I/O module	1	**SWD4-PCAP-M**
SWD4-PCAPP-F 	Passive cap—to provide physical protection and sealing if nothing is connected to the female-mini (7/8 in) external power connection on a machine mount I/O module	1	**SWD4-PCAPP-F**
SWD4-PCAPP-M 	Passive cap—to provide physical protection and sealing if nothing is connected to the male-mini (7/8 in) external power connection on a machine mount I/O module	1	**SWD4-PCAPP-M**
	Mounting Accessories		
SWD4-MNT-VER 	Clip mount—for easy mounting of a machine mount I/O module to any flat or channeled surface, including cylinders and other mounting situations where T-channels are present. Once the bracket is mounted, the I/O Module can be removed and reinstalled without tools		**SWD4-MNT-VER**
SWD4-MNT-DIN 	DIN rail mount—for easy mounting of an EU1E_ or EU2E_ machine mount I/O Module to DIN rail		**SWD4-MNT-DIN**

Enclosed (IP67) Pilot Devices

Contents

Description	*Page*
Enclosed (IP67) Pilot Devices	
Enclosed M22 Pilot Device Examples	**V7-T9-54**
Enclosures	**V7-T9-54**
M12 Wiring Receptacles	**V7-T9-54**

Enclosed (IP67) Pilot Devices

Product Description

Many remote pilot devices of various types and from various manufacturers can be connected to a machine's control cabinet using the SmartWire-DT On Machine wiring system. This section describes a series of easy to assemble versions of a range of pilot devices from within Eaton's M22 standard catalog family to make this connection quick and easy. With simple assembly using standard catalog components, enclosed devices can easily be connected to the SmartWire-DT On Machine wiring system at any mounting location on the machine. This approach to remote device wiring can help the OEM eliminate wiring, terminal blocks and PLC input/output modules in the machine control cabinet.

Features

- Simple assembly with catalog components achieves IP67 sealing and offers plug & play connection to the SmartWire-DT network
- Base-mount contact blocks and LED modules allow for simple removal of the enclosure cover without disturbing switch wiring
- Simple connection via standard cable accessories to SmartWire-DT Machine Mount I/O modules
- Wide variety of enclosures, pushbuttons, selector switches, key switches, pilot lights, and other devices make solving a range of machine applications easy

Product Selection

M22 operators and indicating lights including momentary and maintained pushbuttons, pilot lights, hand and key operated selector switches, and palm switches.

Enclosed M22 Pilot Device Examples


Pushbutton


Double Pushbutton


Selector Switch


Key Selector Switch


Palm Switch

M22-I_

Enclosures

This is a representative subset of Eaton's line of sealed mounting enclosures for M22 devices. Receptacles in the next section require M20 enclosure knockouts, which are present in all M22 enclosures offered by Eaton but are most common in the enclosures listed in this section.

Description	Catalog Number
One-element enclosure	**M22-I1**
Two-element enclosure	**M22-I2**
Three-element enclosure	**M22-I3**
Four-element enclosure	**M22-I4**
Six-element enclosure	**M22-I6**

SWD4-PRM5-...

M12 Wiring Receptacles

Panel-mount M12 connector receptacles designed expressly for mounting in M20 enclosure knockouts in sealed M22 mounting enclosures listed in the previous section.

Description	Catalog Number
5-inch wiring leads, M20 front threads	**SWD4-PRM5-2-S**
1-meter wiring leads, M20 front threads	**SWD4-PRM5-1-S**

Assembly Instructions

1. Select pushbutton or pilot light operator and required contact blocks/light modules from catalog Volume 7 Tab 1.
2. Select enclosure from above listing.
3. Select receptacle from above listing.
4. Mount receptacle in enclosure knockout.
5. Wire receptacle to contact blocks and/or light modules as follows:
   a. To wire a pushbutton or other pilot device as an input to the SmartWire-DT system
      1) The receptacle brown lead is wired to one side of the switch contact
      2) The receptacle black, white or gray ① lead is wired to the other side of the switch contact
   b. To wire an indicating light or actuator as an output from the SmartWire-DT system
      1) The receptacle blue lead is wired to one side of the actuator or pilot light contact
      2) The receptacle black, white, or gray ① lead is wired to the other side of the actuator or pilot light contact

Note

① SmartWire-DT machine mount I/O modules (see **Page V7-T9-43**) are offered in versions with multiple input and output channels per M12 connection point. In the receptacle wiring scheme, one channel is available on the black wire, the second channel is available on the white wire, and a third channel (if available) is carried on the gray wire. If three channels on a single device connector are needed for a 3-element stacklight or 3-element pushbutton station, see EU2E-SWD-4DD-1 in the main T-connector model listing.

Remote Machine Mount Stacklights

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Description	*Page*
Remote Machine Mount Stacklights	
Stacklight Mounting Modules—Fast Mounting System	**V7-T9-56**
Stacklight Mounting Modules—Post Mounting System	**V7-T9-57**

Remote Machine Mount Stacklights

Product Description

Stacklights located remotely on a machine can be easily connected to a machine's logic control using SmartWire-DT. This section describes how to easily add an M12 connector to the base of the SL4 and SL7 standard catalog stacklight families to make this SmartWire-DT connection quick and easy.

These assembled stacklights can then be directly connected to SmartWire-DT machine mount I/O modules. This plug & play connection scheme speeds machine assembly, installation and commissioning, and helps the OEM eliminate wiring, terminal blocks and PLC input/output modules in the control cabinet.

Features

- Simple wiring receptacle mounts directly to stacklight base units to provide IP67 sealing for stacklights remotely located on the machine
- Wiring receptacles are fully compatible with Eaton's rapid mount and aluminum tube bases
- A single cable connection operates up to 3 light or audible modules from the SL7 or SL4 families in any combination
- Simple connection with a single standard cable to SmartWire-DT Machine Mount I/O modules
- Plug & play wiring and auto-addressing means no special setup is required

Stacklight Mounting Modules—Fast Mounting System

Includes Cover, Maximum 3 Modules

SLx-FMS_

Description	Tube Length	Color	Standard Pack	For use with …	Catalog Number
Base with base adapter for rapid mount/dismount Screw terminals SL7 Series Stacklights	100 mm	Black with Aluminum-color tube	1	SL7-L-… SL7-BL-… SL7-FL-… SL7-AP-…	**SL7-FMS-100**
	250 mm				**SL7-FMS-250**
	400 mm				**SL7-FMS-400**
Base with base adapter for rapid mount/dismount Screw terminals SL4 Series Stacklights	100 mm	Black with Aluminum-color tube	1	SL4-L-… SL4-BL-… SL4-FL-… SL4-AP-…	**SL4-FMS-100**
	250 mm				**SL4-FMS-250**
	400 mm				**SL4-FMS-400**

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M12 Wiring Receptacles

SWD4-PRM5-2-S

Description	Detail	Catalog Number
For wiring an SL7/SL4 Stacklight with a Fast Mount (FMS) base	M12 5-pin male receptacle, M20 front threads, 5-inch wiring leads	**SWD4-PRM5-2-S**

Assembly Instructions

1. Select Stacklight light modules from catalog Volume 7 Tab 2.
2. Select Stacklight mounting base from above listings.
3. Select receptacle appropriate for chosen Stacklight mounting base from above listing.
   If using the Post Mount base, also select a Stacklight Mounting Adapter from that section above.
4. Mount receptacle in Fast Mount base or Post Mount base adapter.
5. Wire receptacle to Stacklight terminals as follows:
   a. The receptacle blue lead is wired to Terminal #0 on the Stacklight
   b. The receptacle black, white or gray ① lead is wired to the numbered terminal for the light module in question

Note

① SmartWire-DT machine mount I/O modules (see **Page V7-T9-43**) are offered in versions with multiple input and output channels per M12 connection point. In the receptacle wiring scheme, one channel is available on the black wire, the second channel is available on the white wire, and a third channel (if available) is carried on the gray wire. If three channels on a single device connector are needed for a 3-element stacklight or 3-element pushbutton station, see EU2E-SWD-4DD-1 in the main T-connector model listing.

Stacklight Mounting Modules—Post Mounting System

Includes Cover, Maximum 3 Modules

SLx-PIB/CB-T_

Description	Tube Length	Color	Standard Pack	For use with …	Catalog Number
Base with aluminum tube and 3/4 in NPT threaded base Spring-loaded terminals SL7 Series Stacklights	100 mm	Black with Aluminum-color tube	1	SL7-L-… SL7-BL-… SL7-FL-… SL7-AP-…	**SL7-CB-T-100**
	250 mm				**SL7-CB-T-250**
	400 mm				**SL7-CB-T-400**
Base with aluminum tube and 3/4 in NPT threaded base Spring-loaded terminals SL4 Series Stacklights	100 mm	Black with Aluminum-color tube	1	SL4-L-… SL4-BL-… SL4-FL-… SL4-AP-…	**SL4-PIB-T-100**
	250 mm				**SL4-PIB-T-250**
	400 mm				**SL4-PIB-T-400**

Stacklight Mounting Adapter

SL7/4-FW-T

Description	Detail	Catalog Number
Mounting adapter to allow wiring receptacle to mount to stacklight post mount base	Mounting adapter kit	**SL7/4-FW-T**

M12 Wiring Receptacles

SWD4-PRM5-1-S

Description	Detail	Catalog Number
For wiring an SL7/SL4 Stacklight with post-mount base	M12 5-pin male receptacle, 1/2 inch NPT back threads, 1-meter leads	**SWD4-PRM5-1-S**

Assembly Instructions

1. Select Stacklight light modules from catalog Volume 7 Tab 2.
2. Select Stacklight mounting base from above listings.
3. Select receptacle appropriate for chosen Stacklight mounting base from above listing.
   If using the Post Mount base, also select a Stacklight Mounting Adapter from that section above.
4. Mount receptacle in Fast Mount base or Post Mount base adapter.
5. Wire receptacle to Stacklight terminals as follows:
   a. The receptacle blue lead is wired to Terminal #0 on the Stacklight
   b. The receptacle black, white or gray ① lead is wired to the numbered terminal for the light module in question

Note

① SmartWire-DT machine mount I/O modules (see **Page V7-T9-43**) are offered in versions with multiple input and output channels per M12 connection point. In the receptacle wiring scheme, one channel is available on the black wire, the second channel is available on the white wire, and a third channel (if available) is carried on the gray wire. If three channels on a single device connector are needed for a 3-element stacklight or 3-element pushbutton station, see EU2E-SWD-4DD-1 in the main T-connector model listing.

Technical Data and Specifications

Gateway Modules

Description	Unit	EU5C-SWD-EIP-MODTCP Gateway	EU5C-SWD-PROFINET Gateway	EU5C-SWD-DP Gateway	EU5C-SWD-ETHERCAT Gateway	EU5C-SWD-CAN Gateway	EU5C-SWD-POWERLINK Gateway
General							
Standards		IEC/EN 61131-2 EN 50178	IEC/EN 61131-2 EN 50178	IEC/EN 61131-2 EN 50178	IEC/EN 61131-2 EN 50178	IEC/EN 61131-2 EN 50178	IEC/EN 61131-2 EN 50178
Dimensions (W x H x D)	in (mm)	1.38 x 3.54 x 4.88 (35 x 90 x 124)	1.38 x 3.54 x 4.88 (35 x 90 x 124)	1.38 x 3.54 x 5.0 (35 x 90 x 127)	1.38 x 3.54 x 5.0 (35 x 90 x 127)	1.38 x 3.54 x 5.0 (35 x 90 x 127)	1.38 x 3.54 x 5.0 (35 x 90 x 127)
Weight	lbs (kg)	0.37 (0.17)	0.37 (0.17)	0.35 (0.16)	0.35 (0.16)	0.35 (0.16)	0.35 (0.16)
Mounting		DIN rail IEC/EN 60715, 35 mm		DIN rail IEC/EN 60715, 35 mm		DIN rail IEC/EN 60715, 35 mm	
Mounting position		Vertical	Vertical	Vertical	Vertical	Vertical	Vertical
Ambient Conditions, Mechanical							
Degree of protection (IEC/EN 60529)		IP20	IP20	IP20	IP20	IP20	IP20
Vibrations (IEC/EN 61131-2:2008)							
Constant amplitude 3.5 mm	Hz	5–8.4	5–8.4	5–8.4	5–8.4	5–8.4	5–8.4
Constant acceleration 1 g	Hz	8.4–150	8.4–150	8.4–150	8.4–150	8.4–150	8.4–150
Mechanical shock resistance (IEC/EN 60068-2-27) semi-sinusoidal 15 g/11 ms	Impacts	9	9	9	9	9	9
Drop to IEC/EN 60068-2-31 (drop height)	in (mm)	1.97 (50)	1.97 (50)	1.97 (50)	1.97 (50)	1.97 (50)	1.97 (50)
Free fall, packaged (IEC/EN 60068-2-32)	ft (m)	1.0 (0.3)	1.0 (0.3)	1.0 (0.3)	1.0 (0.3)	1.0 (0.3)	1.0 (0.3)
Electromagnetic Compatibility (EMC)							
Overvoltage category		II	II	II	II	II	II
Pollution degree		2	2	2	2	2	2
Electrostatic discharge (IEC/EN 61131-2:2008)							
Air discharge (Level 3)	kV	8	8	8	8	8	8
Contact discharge (Level 2)	kV	4	4	4	4	4	4
Electromagnetic fields (IEC/EN 61131-2:2008)							
80–1000 MHz	V/m	10	10	10	10	10	10
1.4–2 GHz	V/m	3	3	3	3	3	3
2–2.7 GHz	V/m	1	1	1	1	1	1
Radio interference suppression (SmartWire-DT)		EN 55011 Class A		EN 55011 Class A		EN 55011 Class A	
Burst (IEC/EN 61131-2:2008, Level 3)							
Supply cables	kV	2	2	2	2	2	2
CAN/DP bus cable	kV	1	1	1	1	1	1
SmartWire-DT cables	kV	1	1	1	1	1	1
Surge (IEC/EN 61131-2:2008, Level 1)							
Supply cables	kV	0.5	0.5	0.5	0.5	0.5	0.5
CAN/DP bus cable	kV	1	1	1	1	1	1
Radiated RFI (IEC/EN 61131-2:2008, Level 3)	V	10	10	10	10	10	10
Climatic Environmental Conditions							
Operating ambient temperature (IEC 60068-2)	°F (°C)	–13° to 131° (–25° to 55°)		–13° to 131° (–25° to 55°)		–13° to 131° (–25° to 55°)	
Condensation		Prevent with suitable measures		Prevent with suitable measures		Prevent with suitable measures	
Storage	°F (°C)	–40° to 158° (–40° to 70°)		–40° to 158° (–40° to 70°)		–40° to 158° (–40° to 70°)	
Relative humidity, noncondensing (IEC/EN 60068-2-30)	%	5–95	5–95	5–95	5–95	5–95	5–95
Supply Voltage U_{Aux}							
SM Puffer Bremer	V	24 Vdc (–15%/+20%)		24 Vdc (–15%/+20%)		24 Vdc (–15%/+20%)	
Residual ripple on the input voltage	%	≤5	≤5	5	5	5	5
Protection against polarity reversal		Yes	Yes	Yes	Yes	Yes	Yes
Max. current (I_{max})	A	2 ①	2 ①	2 ①	2 ①	2 ①	2 ①
Short-circuit rating		No, external fuse FAZ Z3		No, external fuse FAZ Z3		No, external fuse FAZ Z3	
Power loss	W	Normally 1	Normally 1	Normally 1	Normally 1	Normally 1	Normally 1
Potential isolation		No	No	No	No	No	No
Rated operating voltage of 24 Vdc modes	V	Typ. U_{Aux} –0.2	Typ. U_{Aux} –0.2	Typ. U_{Aux} –0.2	Typ. U_{Aux} –0.2	Typ. U_{Aux} –0.2	Typ. U_{Aux} –0.2

Note

① If contactors with a total current consumption >2 A are connected, a Powerfeed module EU5C-SWD-PF1/2 has to be used.

Gateway Modules, continued

Description	Unit	EU5C-SWD-EIP-MODTCP Gateway	EU5C-SWD-PROFINET Gateway	EU5C-SWD-DP Gateway	EU5C-SWD-ETHERCAT Gateway	EU5C-SWD-CAN Gateway	EU5C-SWD-POWERLINK Gateway
Supply Voltage U_{Pow}							
Supply voltage	V			24 Vdc (–15%/+20%)			
Input voltage ripple	%	≤5	≤5	≤5	≤5	≤5	≤5
Siemens MPI, (optional)		Yes	Yes	Yes	Yes	Yes	Yes
Rated current (*I*)	A	0.7	0.7	0.7	0.7	0.7	0.7
Overload proof		Yes	Yes	Yes	Yes	Yes	Yes
Inrush current and duration	A	12.5 A/6 ms	12.5 A/6 ms	12.5 A/6 ms	12.5 A/6 ms	12.5 A/6 ms	12.5 A/6 ms
Heat dissipation at 24 Vdc	W	3.8	3.8	3.8	3.8	3.8	3.8
Potential isolation between U_{Pow} and 15 V SmartWire-DT supply voltage		No	No	No	No	No	No
Bridging voltage dips	ms	10	10	10	10	10	10
Repetition rate	s	1	1	1	1	1	1
Status indication (LED)		Yes	Yes	Yes	Yes	Yes	Yes
SmartWire-DT Supply Voltage							
Rated operating voltage (U_e)	V	14.5 ±3%	14.5 ±3%	14.5 ±3%	14.5 ±3%	14.5 ±3%	14.5 ±3%
Max. current (I_{max})	A	0.7 ①	0.7 ①	0.7 ①	0.7 ①	0.7 ①	0.7 ①
Short-circuit proof		Yes	Yes	Yes	Yes	Yes	Yes
Connection Supply Voltages							
Connection type		Push in terminals	Push in terminals	Push in terminals	Push in terminals	Push in terminals	Push in terminals
Solid	mm^2	0.2–1.5 (AWG 24–16)	0.2–1.5 (AWG 24–16)	0.2–1.5 (AWG 24–16)	0.2–1.5 (AWG 24–16)	0.2–1.5 (AWG 24–16)	0.2–1.5 (AWG 24–16)
Flexible with ferrule	mm^2	0.25–1.5	0.25–1.5	0.25–1.5	0.25–1.5	0.25–1.5	0.25–1.5
SmartWire-DT Network							
Station type		SmartWire-DT master	SmartWire-DT master	SmartWire-DT master	SmartWire-DT master	SmartWire-DT master	SmartWire-DT master
Number of SmartWire-DT nodes		99	99	58	99	99	99
Baud rates		125 250	125 250	125 250	125 250	125 250	125 250
Address allocation		Automatic	Automatic	Automatic	Automatic	Automatic	Automatic
Status indication (LED)							
SmartWire-DT master		Green	Green	Green	Green	Green	Green
Configurations		Red	Red	Red	Red	Red	Red
Connections		Plug, 8-pole	Plug, 8-pole	Plug, 8-pole	Plug, 8-pole	Plug, 8-pole	Plug, 8-pole
Plug connectors		Flat plug SWD4-8MF2	Flat plug SWD4-8MF2	Flat plug SWD4-8MF2	Flat plug SWD4-8MF2	Flat plug SWD4-8MF2	Flat plug SWD4-8MF2
Fieldbus Interface							
Bus protocol		Ethernet IP/Modbus TCP	PROFINET	PROFIBUS DP	EtherCAT	CANopen	POWERLINK
Baud rates		10/100 mB	10/100 mB	Up to 12 mB	Up to 12 mB	To 1 mB	To 1 mB
Address allocation		Automatic	Automatic	Automatic	Automatic	Automatic	Automatic
Station address		—	—	2–125	2–125	2–32	2–32
Address allocation		DIP switch/DHCP/BOOTP selection via DIP switch	DIP switch/DHCP/BOOTP selection via DIP switch	DIP switch	DIP switch	DIP switch	DIP switch
Status display fieldbus interface (LED)		Link status: yellow (10 mB), green (100 mB) flashing	Link status: yellow (10 mB), green (100 mB) flashing	Two-colored red/green	Two-colored red/green	Two-colored red/green	Two-colored red/green
Terminating resistor		—	—	Switchable via plug	Switchable via plug	DIP switches	DIP switches
Connection design for field bus		2 x RJ45 (2-channel switch)	2 x RJ45 (2-channel switch)	1 x SUB-D socket, 9-pole	2 x RJ45, (2-channel switch)	1 x SUB-D socket, 9-pole	2 x RJ45, (2-channel switch)
Potential isolation		Yes	Yes	Yes	Yes	Yes	Yes

Note

① If contactors with a total current consumption >0.7 A are connected, a Power Feeder module EU5C-SWD-PF2 has to be used.

Powerfeed Modules

Description	Unit	EU5C-SWD-PF1-1 Powerfeed	EU5C-SWD-PF2-1 Powerfeed
General			
Standards		IEC/EN 61131-2 EN 50178	IEC/EN 61131-2 EN 50178
Dimensions (W x H x D)	in (mm)	1.38 x 3.54 x 4.88 (35 x 90 x 124)	1.38 x 3.54 x 4.88 (35 x 90 x 124)
Weight	lbs (kg)	0.24 (0.11)	0.37 (0.17)
Mounting		DIN rail IEC/EN 60715, 35 mm	DIN rail IEC/EN 60715, 35 mm
Mounting position		Vertical	Vertical
Ambient Conditions, Mechanical			
Degree of protection (IEC/EN 60529)		IP20	IP20
Vibrations (IEC/EN 61131-2:2008)			
Constant amplitude 3.5 mm	Hz	5–8.4	5–8.4
Constant acceleration 1 g	Hz	8.4–150	8.4–150
Mechanical shock resistance (IEC/EN 60068-2-27) semi-sinusoidal 15 g/11 ms	Impacts	9	9
Drop to IEC/EN 60068-2-31 (drop height)	in (mm)	1.97 (50)	1.97 (50)
Free fall, packaged (IEC/EN 60068-2-32)	ft (m)	1.0 (0.3)	1.0 (0.3)
Electromagnetic Compatibility (EMC)			
Overvoltage category		II	II
Pollution degree		2	2
Electrostatic discharge (IEC/EN 61131-2:2008)			
Air discharge (Level 3)	kV	8	8
Contact discharge (Level 2)	kV	4	4
Electromagnetic fields (IEC/EN 61131-2:2008)			
80–1000 MHz	V/m	10	10
1.4–2 GHz	V/m	3	3
2–2.7 GHz	V/m	1	1
Radio interference suppression (SmartWire-DT)		EN 55011 Class A	EN 55011 Class A
Burst (IEC/EN 61131-2:2008, Level 3)			
Supply cables	kV	2	2
CAN/DP bus cable	kV	—	—
SmartWire-DT cables	kV	1	1
Surge (IEC/EN 61131-2:2008, Level 1)			
Supply cables	kV	0.5	0.5
CAN/DP bus cable	kV	1	1
Radiated RFI (IEC/EN 61131-2:2008, Level 3)	V	10	10
Climatic Environmental Conditions			
Operating ambient temperature (IEC 60068-2)	°F (°C)	–13° to 131° (–25° to 55°)	–13° to 131° (–25° to 55°)
Condensation		Prevent with suitable measures	Prevent with suitable measures
Storage	°F (°C)	–40° to 158° (–40° to 70°)	–40° to 158° (–40° to 70°)
Relative humidity, noncondensing (IEC/EN 60068-2-30)	%	5–95	5–95
Supply Voltage U_{Aux}			
SM Puffer Bremer	V	24 Vdc (–15%/+20%)	24 Vdc (–15%/+20%)
Residual ripple on the input voltage	%	5	5
Protection against polarity reversal		Yes	Yes
Max. current (I_{max})	A	3	3
Short-circuit rating		No, external fuse FAZ Z3	No, external fuse FAZ Z3
Power loss	W	Normally 1	Normally 1
Potential isolation		No	No
Rated operating voltage of 24 Vdc modes	V	Typ. U_{Aux} –0.2	Typ. U_{Aux} –0.2

Powerfeed Modules, continued

Description	Unit	EU5C-SWD-PF1-1 Powerfeed	EU5C-SWD-PF2-1 Powerfeed
Supply Voltage U_{Pow}			
Supply voltage	V	24 Vdc (–15%/+20%)	24 Vdc (–15%/+20%)
Input voltage ripple	%	≤5	≤5
Siemens MPI, (optional)		—	Yes
Rated current (*I*)	A	0.7	0.7
Overload proof		Yes	Yes
Inrush current and duration	A	12.5 A/6 ms	12.5 A/6 ms
Heat dissipation at 24 Vdc	W	3.8	3.8
Potential isolation between U_{Pow} and 15 V SmartWire-DT supply voltage		—	Yes
Bridging voltage dips	ms	—	10
Repetition rate	s	—	1
Status indication (LED)		No	Yes
SmartWire-DT Supply Voltage			
Rated operating voltage (U_e)	V	14.5 ±3%	14.5 ±3%
Max. current (I_{max})	A	0.7	0.7
Short-circuit proof		No	Yes
Connection Supply Voltages			
Connection type		Push in terminals	Push in terminals
Solid	mm^2	0.2–1.5 (AWG 24–16)	0.2–1.5 (AWG 24–16)
Flexible with ferrule	mm^2	0.25–1.5	0.25–1.5
SmartWire-DT Network			
Station type		—	—
Number of SmartWire-DT modes		—	—
Baud rates		—	—
Address allocation		None	None
Status indication (LED)			
SmartWire-DT master		Green	Green
Configurations		Red	Red
Connections		2 x plug, 8-pole	2 x plug, 8-pole
Plug connectors		Two flat plugs SWD4-8MF2	Two flat plugs SWD4-8MF2
Fieldbus Interface			
Bus protocol		—	—
Baud rates		—	—
Address allocation		—	—
Station address		—	—
Address allocation		—	—
Status display fieldbus interface (LED)		—	—
Terminating resistor		—	—
Connection design for field bus		—	—
Potential isolation		—	—

XV-102 Series HMI-PLCs and XC-152 Series PLCs

Model	XV-102			XC-152		
Screen Size	**3.5 in**	**5.7 in**	**7.0 in**	**5.7 in**	**8.4 in**	**10.4 in**
Operating system	WinCE 5.0 Professional	WinCE 5.0 Professional	WinCE 5.0 Professional	WinCE 5.0 Professional	WinCE 5.0 Professional	WinCE 5.0 Professional
Touchscreen technology	Resistive	Resistive	Resistive	Resistive	Resistive	Resistive
Display, colors	Color TFT, 64 k colors	Color TFT, 64 k colors	Color TFT, 64 k colors	Color TFT, 64 k colors	Color TFT, 64 k colors	Color TFT, 64 k colors
Pixel resolution (landscape) portrait mode also available	QVGA 320 x 240	VGA 640 x 480	WVGA 800 x 480	VGA 640 x 480	VGA 640 x 480	VGA 640 x 480
Brightness (cd/m^2)	250	250	250	350	350	350
Backlight	LED, selectable dimming	LED, selectable dimming	LED, selectable dimming	LED, selectable dimming	LED, selectable dimming	LED, selectable dimming
Lifespan of backlight (half-life)	40,000 hrs	40,000 hrs	40,000 hrs	40,000 hrs	40,000 hrs	40,000 hrs
Processor	32 bit RISC, 400 MHz	32 bit RISC, 400 MHz	32 bit RISC, 400 MHz	32 bit RISC, 400 MHz	32 bit RISC, 400 MHz	32 bit RISC, 400 MHz
Volatile memory	64 MB DRAM	64 MB DRAM	64 MB DRAM	64 MB DRAM	64 MB DRAM	64 MB DRAM
Non-volatile memory	125 KB NVRAM/64 MB NAND, 1 SD card slot	125 KB NVRAM/64 MB NAND/ 2 MB NOR, 1 SD card slot		125 KB NVRAM/64 MB NAND/ 2 MB NOR, 1 SD card slot		
Real time clock	Yes	Yes	Yes	Yes	Yes	Yes
Communication ports	Ethernet 10/100, RS-485 or RS-232 USB Device	Ethernet 10/100, RS-485, RS-232 USB Host, USB Device		Ethernet 10/100, RS-485, RS-232 USB Host, USB Device		
Slots for COMM modules	None	None	None	None	None	None
Power supply rated voltage	24 Vdc nominal (–20%/+25%) with polarity protection			24 Vdc nominal (–20%/+25%) with polarity protection		
Continuous current consumption (max. amps)	0.2	0.4	0.4	0.4	0.6	0.6
Starting current inrush (A^{2}s)	1.5	1.5	1.5	1.5	1.5	1.5
Ambient conditions						
Operation—relative humidity, noncondensing	0 to 50 °C, 10 to 95%	0 to 50 °C, 10 to 95%	0 to 50 °C, 10 to 95%	0 to 50 °C, 10 to 95%	0 to 50 °C, 10 to 95%	0 to 50 °C, 10 to 95%
Storage/transport—relative humidity, noncondensing	–20 to 60 °C, 10 to 95%	–20 to 60 °C, 10 to 95%	–20 to 60 °C, 10 to 95%	–20 to 60 °C, 10 to 95%	–20 to 60 °C, 10 to 95%	–20 to 60 °C, 10 to 95%
Shock	IEC 60068-2-27 15 g for 11 ms duration			IEC 60068-2-27 15 g for 11 ms duration		
Vibration	IEC 60068-2-6 5–9 Hz: 3.5 mm displacement 9–60 Hz: 0.15 mm displacement 60–150 Hz: 2 g acceleration			IEC 60068-2-6 5–9 Hz: 3.5 mm displacement 9–60 Hz: 0.15 mm displacement 60–150 Hz: 2 g acceleration		
Agency certifications and standards	CE, UL/cUL, CSA (pending), RoHS			CE, UL/cUL, CSA (pending), RoHS		
Protection type						
Front	IP65, NEMA 4X (indoor)	IP65, NEMA 4X (indoor)	IP65, NEMA 4X (indoor)	IP65, NEMA 4X (indoor)	IP65, NEMA 4X (indoor)	IP65, NEMA 4X (indoor)
Rear	IP20, NEMA 1	IP20, NEMA 1	IP20, NEMA 1	IP20, NEMA 1	IP20, NEMA 1	IP20, NEMA 1
Housing material	Plastic	Plastic	Plastic	Metal	Metal	Metal
Dimensions WxHxD (mm)	136 x 100 x 30	170 x 130 x 39	210 x 135 x 38	212 x 156 x 53	275 x 208 x 53	345 x 260 x 54
Mounting cutout WxH (mm)	123 x 87	157 x 117	197 x 122	198 x 142	261 x 194	329 x 238
Approximate weight lbs (kg)	0.7 (0.3)	1.3 (0.6)	1.3 (0.6)	2.9 (1.3)	4.3 (2.1)	6.1 (3.0)
Ability to run third party software	No	No	No	No	No	No
XSoft-CoDeSys-2 development software		SW-XSOFT-CODESYS-2-S SW-XSOFT-CODESYS-2-M			SW-XSOFT-CODESYS-2-S SW-XSOFT-CODESYS-2-M	
XSoft-CoDeSys-3 development software		SW-XSOFT-CODESYS-3-S SW-XSOFT-CODESYS-3-M			SW-XSOFT-CODESYS-3-S SW-XSOFT-CODESYS-3-M	

Digital I/O Modules

Description	Unit	EU5E-SWD-8DX	EU5E-SWD-4DX	EU5E-SWD-4D4D	EU5E-SWD-4D2R	EU5E-SWD-X8D
General						
Standards		IEC/EN 61131-2; EN 50178	IEC/EN 61131-2; EN 50178	IEC/EN 61131-2; EN 50178	IEC/EN 61131-2; EN 50178	IEC/EN 61131-2; EN 50178
Dimensions (W x H x D)	in (mm)	1.38 x 3.54 x 3.97 (35 x 90 x 101)	1.38 x 3.54 x 3.97 (35 x 90 x 101)	1.38 x 3.54 x 3.97 (35 x 90 x 101)	1.38 x 3.54 x 3.97 (35 x 90 x 101)	1.38 x 3.54 x 3.97 (35 x 90 x 101)
Weight	lbs (kg)	0.22 (0.10)	0.22 (0.10)	0.22 (0.10)	0.22 (0.10)	0.22 (0.10)
Mounting		DIN rail IEC/EN 60715, 35 mm	Top-hat rail IEC/ EN 60715, 35 mm	DIN rail IEC/EN 60715, 35 mm	DIN rail IEC/EN 60715, 35 mm	Top-hat rail IEC/ EN 60715, 35 mm
Mounting position		Vertical	Vertical	Vertical	Vertical	Vertical
Ambient Conditions, Mechanical						
Degree of protection (IEC/EN 60529)		IP20	IP20	IP20	IP20	IP20
Vibrations (IEC/EN 61131-2:2008)						
Constant amplitude 3.5 mm	Hz	5–8.4	5–8.4	5–8.4	5–8.4	5–8.4
Constant acceleration 1 g	Hz	8.4–150	8.4–150	8.4–150	8.4–150	8.4–150
Mechanical shock resistance (IEC/EN 60068-2-27) semi-sinusoidal 15 g/11 ms	Impacts	9	9	9	9	9
Drop to IEC/EN 60068-2-31 (drop height)	in (mm)	1.97 (50)	1.97 (50)	1.97 (50)	1.97 (50)	1.97 (50)
Free fall, packaged (IEC/EN 60068-2-32)	ft (m)	1.0 (0.3)	1.0 (0.3)	1.0 (0.3)	1.0 (0.3)	1.0 (0.3)
Electromagnetic Compatibility (EMC)						
Overvoltage category		II	II	II	II	II
Pollution degree		2	2	2	2	2
Electrostatic discharge (IEC/EN 61131-2:2008)						
Air discharge (Level 3)	kV	8	8	8	8	8
Contact discharge (Level 2)	kV	4	4	4	4	4
Electromagnetic fields (IEC/EN 61131-2:2008)						
80–1000 MHz	V/m	10	10	10	10	10
1.4–2 GHz	V/m	3	3	3	3	3
2–2.7 GHz	V/m	1	1	1	1	1
Radio interference suppression (SmartWire-DT)		EN 55011 Class A	EN 55011 Class A	EN 55011 Class A	EN 55011 Class A	EN 55011 Class A
Burst (IEC/EN 61131-2:2008, Level 3)						
Supply cables	kV	2	2	2	2	2
Signal lines	kV	1	1	1	1	1
SmartWire-DT cables	kV	1	1	1	1	1
Surge (IEC/EN 61131-2:2008, Level 1)						
Supply cables	kV	0.5	0.5	0.5	0.5	0.5
Radiated RFI (IEC/EN 61131-2:2008, Level 3)	V	10	10	10	10	10
Climatic Environmental Conditions						
Operating ambient temperature (IEC 60068-2)	°F (°C)	–13° to 131° (–25° to 55°)	–13° to 131° (–25° to 55°)	–13° to 131° (–25° to 55°)	–13° to 131° (–25° to 55°)	–13° to 131° (–25° to 55°)
Condensation		Prevent with suitable measures	Prevent with suitable measures	Prevent with suitable measures	Prevent with suitable measures	Prevent with suitable measures
Storage	°F (°C)	–40° to 158° (–40° to 70°)	–40° to 158° (–40° to 70°)	–40° to 158° (–40° to 70°)	–40° to 158° (–40° to 70°)	–40° to 158° (–40° to 70°)
Relative humidity, noncondensing (IEC/ EN 60068-2-30)	%	5–95	5–95	5–95	5–95	5–95
SmartWire-DT Network						
Station type		SmartWire-DT (node)	SmartWire-DT (node)	SmartWire-DT (node)	SmartWire-DT (node)	SmartWire-DT (node)
Address allocation		Automatic	Automatic	Automatic	Automatic	Automatic
SmartWire-DT status (LED)		Green	Green	Green	Green	Green
Connection						
Plug		8-pole	Plug, 8-pole	8-pole	8-pole	Plug, 8-pole
Connection plug		External device plug SWD4-8SF2-5	External device plug SWD4-8SF2-5	External device plug SWD4-8SF2-5	External device plug SWD4-8SF2-5	External device plug SWD4-8SF2-5
Current consumption (15 V SWD supply)		16 mA	33 mA	33 mA	45 mA	43 mA

Digital I/O Modules, continued

Description	Unit	EU5E-SWD-8DX	EU5E-SWD-4DX	EU5E-SWD-4D4D	EU5E-SWD-4D2R	EU5E-SWD-X8D
Connection Supply and I/O						
Connection type		Push in terminals	Push in terminals	Push in terminals	Push in terminals	Push in terminals
Solid	mm^2	0.2–1.5 (AWG 24–16)	0.2–1.5 (AWG 24–16)	0.2–1.5 (AWG 24–16)	0.2–1.5 (AWG 24–16)	0.2–1.5 (AWG 24–16)
Flexible with ferrule ①	mm^2	0.25–1.5 (AWG 24–16)	0.25–1.5	0.25–1.5	0.25–1.5	0.25–1.5 (AWG 24–16)
24 Vdc Supply for Output Supply						
Rated operational voltage (U_e)	V	24 Vdc (–15%/+20%)	24 Vdc (–15%/+20%)	24 Vdc (–15%/+20%)	24 Vdc (–15%/+20%)	24 Vdc (–15%/+20%)
Residual ripple on the input voltage	%	—	≤5	5	—	≤5
Protection against polarity reversal		—	Yes	Yes	—	Yes
Digital Inputs						
Quantity		8	4 ①	4	4	—
Input current	mA	Typ. 4 at 24 Vdc	Typ. 4 at 24 Vdc	Typ. 4 at 24 Vdc	Typ. 4 at 24 Vdc	Typ. 4 at 24 Vdc
Voltage level to IEC/EN 61131-2						
Limit value type 1				Low <5 Vdc; High >15 Vdc		
Input delay						
High		<0.2 ms	<0.2 ms	<0.2 ms	<0.2 ms	<0.2 ms
Low		<0.2 ms	<0.2 ms	<0.2 ms	<0.2 ms	<0.2 ms
SmartWire-DT status (LED)		Yellow	Yellow	Yellow	Yellow	—
Power Supply I+, I-						
Overload proof		—	Yes, with diagnostics	—	—	—
Output current per input supply	A	—	≤0.5	—	—	—
Supply voltage	V	—	U_e 0.16 V	—	—	—
Transistor Outputs						
Number		—	—	4	—	8
Output current	A	—	—	Normally 0.5 at 24 Vdc	—	Normally 0.5 at 24 Vdc
Short-circuit tripping current	A	—	—	Max. 1.2 over 3 ms	—	Max. 1.2 over 3 ms
Lamp load (R_{LL})	W	—	—	3	—	≤3
Overload proof		—	—	Yes, with diagnostics	—	Yes, with diagnostics
Switching capacity		—	—	EN 60947-5-1 utilization category DC-13	—	EN 60947-5-1 utilization category DC-13
Status display	LED	—	—	—	—	Yellow
Relay Outputs						
Number		—	—	—	2	—
Contact type art		—	—	—	N/O contact	—
Operations						
Utilization category AC-1, 250 V, 6 A		—	—		$>6 \times 10^4$	—
Utilization category AC-15, 250 V, 3 A		—	—	—	$>5 \times 10^4$	—
Utilization category DC-13, 24 V, 1 A		—	—	—	$>2 \times 10^5$	—
Safe isolation	Vac	—	—	—	230	—
Minimum load current	mA	—	—	—	100 mA, 12 Vdc	—
Pick-up/drop-out time	ms	—	—	—	5/2.5	—
Bounce duration	ms	—	—	—	Normally 1.5	—
Short-circuit protection		—	—	—	External 4A gL/gG	—
Status display outputs (LED)		—	—	Yellow	Yellow	—
Potential Isolation						
Inputs for SmartWire-DT		Yes	Yes	Yes	Yes	Yes
Transistor outputs for SmartWire-DT		—	Yes	Yes	—	—
Transistor outputs for inputs		—	—	No	—	—
Relays for SmartWire-DT		—	—	—	Yes	—
Relays for inputs		—	—	—	Yes	—
Relays for relays		—	—	—	Yes	—

Note

① Three-wire connection with power supply I+, I-.

Analog I/O Modules

Description	Unit	EU5E-SWD-4AX	EU5E-SWD-2A2A	EU5E-SWD-4PT	EU5E-SWD-4PT-2
General					
Standards		IEC/EN 61131-2/EN 50178	IEC/EN 61131-2/EN 50178	IEC/EN 61131-2/EN 50178	IEC/EN 61131-2/EN 50178
Dimensions (W x H x D)	in (mm)	1.38 x 3.54 x 3.97 (35 x 90 x 101)	1.38 x 3.54 x 3.97 (35 x 90 x 101)	1.38 x 3.54 x 3.97 (35 x 90 x 101)	1.38 x 3.54 x 3.97 (35 x 90 x 101)
Weight	lbs (kg)	0.22 (0.10)	0.22 (0.10)	0.22 (0.10)	0.22 (0.10)
Mounting		Top-hat rail IEC/EN 60715, 35 mm	Top-hat rail IEC/EN 60715, 35 mm	Top-hat rail IEC/EN 60715, 35 mm	Top-hat rail IEC/EN 60715, 35 mm
Mounting position		Vertical	Vertical	Vertical	Vertical
Ambient Conditions, Mechanical					
Protection type (IEC/EN 60529)		IP20	IP20	IP20	IP20
Vibrations (IEC/EN 61131-2:2008)					
Constant amplitude 3.5 mm	Hz	5–8.4	5–8.4	5–8.4	5–8.4
Constant acceleration 1 g	Hz	8.4–150	8.4–150	8.4–150	8.4–150
Mechanical shock resistance (IEC/EN 60068-2-27) semi-sinusoidal 15 g/11 ms	Impacts	9	9	9	9
Drop to IEC/EN 60068-2-31 (drop height)	in (mm)	1.97 (50)	1.97 (50)	1.97 (50)	1.97 (50)
Free fall, packaged (IEC/EN 60068-2-32)	ft (m)	1.0 (0.3)	1.0 (0.3)	1.0 (0.3)	1.0 (0.3)
Electromagnetic Compatibility (EMC)					
Overvoltage category		II	II	II	II
Pollution degree		2	2	2	2
Electrostatic discharge (IEC/EN 61131-2:2008)					
Air discharge (Level 3)	kV	8	8	8	8
Contact discharge (Level 2)	kV	4	4	4	4
Electromagnetic fields (IEC/EN 61131-2:2008)					
80–1000 MHz	V/m	10	10	10	10
1.4–2 GHz	V/m	3	3	3	3
2–2.7 GHz	V/m	1	1	1	1
Radio interference suppression (SmartWire-DT)		EN 55011 Class A	EN 55011 Class A	EN 55011 Class A	EN 55011 Class A
Burst (IEC/EN 61131-2:2008, Level 3)					
Supply cables	kV	2	2	2	2
Signal lines	kV	2	2	2	2
SmartWire-DT cables	kV	2	2	2	2
Surge (IEC/EN 61131-2:2008, Level 1)		Supply cables 1.0 kV	Supply cables 1.0 kV	Supply cables 1.0 kV	Supply cables 1.0 kV
Radiated RFI (IEC/EN 61131-2:2008, Level 3)	V	10	10	10	10
Climatic Environmental Conditions					
Operating ambient temperature (IEC 60068-2)	°F (°C)	13° to 131° (–25° to 55°)	13° to 131° (–25° to 55°)	13° to 131° (–25° to 55°)	13° to 131° (–25° to 55°)
Condensation		Prevent with suitable measures	Prevent with suitable measures	Prevent with suitable measures	Prevent with suitable measures
Storage	°F (°C)	–40° to 158° (–40° to 70°)	–40° to 158° (–40° to 70°)	–40° to 158° (–40° to 70°)	–40° to 158° (–40° to 70°)
Relative humidity, noncondensing (IEC/EN 60068-2-30)	%	5–95	5–95	5–95	5–95
SmartWire-DT Network					
Station type		SmartWire-DT slave	SmartWire-DT slave	SmartWire-DT slave	SmartWire-DT slave
Baud rate setting		Automatic	Automatic	Automatic	Automatic
SmartWire-DT status LED	LED	Green	Green	Green	Green
Connection		Plug: 8-pole/Connection plug: External device plug SWD4-8SF2-5			
Current consumption (15 V SWD supply)		22 mA	22 mA	22 mA	22 mA
Connection Supply and I/O					
Connection type		Push in terminals	Push in terminals	Push in terminals	Push in terminals
Solid	mm^2	0.25–1.5 (AWG 24–16)	0.25–1.5 (AWG 24–16)	0.25–1.5 (AWG 24–16)	0.25–1.5 (AWG 24–16)
Flexible with ferrule	mm^2	0.25–1.5 (AWG 24–16)	0.25–1.5 (AWG 24–16)	0.25–1.5 (AWG 24–16)	0.25–1.5 (AWG 24–16)
24 Vdc Supply for Output Supply					
Rated operational voltage (U_e)	V	24 Vdc –15%/+20%	24 Vdc –15%/+20%	24 Vdc –15%/+20%	24 Vdc –15%/+20%
Residual ripple on the input voltage	%	≤5	≤5	≤5	≤5
Current consumption	mA	10	50	—	—
Protection against polarity reversal		Yes	Yes	Yes	Yes

Analog I/O Modules, continued

Description	Unit	EU5E-SWD-4AX	EU5E-SWD-2A2A	EU5E-SWD-4PT	EU5E-SWD-4PT-2
Analog Inputs					
Quantity		Four (two-wire connection, screened, length <10m)	Two (two-wire connection, screened, length <10m)	—	—
Parameterization					
Part no.		Voltage, current	Voltage, current	—	—
Averaging		Adjustable	Adjustable	—	—
Voltage					
Input voltage	V	0–10	0–10	—	—
Input impedance	k ohms	13.3	13.3	—	—
Maximum current					
Input current	mA	0–20	0–20	—	—
Input impedance	ohms	< 250	< 250	—	—
Resolution	Bit	12	12	—	—
Conversion time	ms	20	20	—	—
Total error	%	±1	±1	—	—
Repetition accuracy	%	±0.5	±0.5	—	—
Dielectric strength	V	±30	±30	—	—
Analog Outputs					
Number		—	Two (two-wire connection, screened)	—	—
Parameterization					
Part no.		—	Voltage, current	—	—
Averaging		—	—	—	—
Voltage					
Output voltage	V	—	0–10	—	—
Maximum output current	mA	—	10	—	—
Maximum current					
Output current	mA	—	0–20	—	—
Load resistance	ohms	—	<500	—	—
Overload and short-circuit proof		—	Yes	—	—
Resolution	Bit	—	12	—	—
Conversion time	ms	—	20	—	—
Total error	%	—	±1	—	—
Repetition accuracy	%	—	±0.5	—	—
Temperature Inputs					
Number		—	—	Four (two-, three-wire connection, screened, length <10m)	Four (two-, three-wire connection, screened, length <10m)
Parameterization					
Averaging		—	—	Adjustable	Adjustable
Temperature sensor		—	—	PT100, PT1000, Ni1000	PT100, PT1000, Ni1000
Temperature range	°F (°C)	—	—	PT100, PT1000: –58° to 392° (–50° to 200°) Ni1000: –58° to 302° (–50° to 150°)	PT100, PT1000: –148° to 752° (–100° to 400°) Ni1000: –58° to 302° (–50° to 150°)
Resolution	°F (°C)	—	—	32° (0.1°)	32° (0.1°)
Conversion time	ms	—	—	250	250
Display		—	—	°C, °F, raw value	°C, °F, raw value
Total error	%	—	—	±1	±1
Repetition accuracy	%	—	—	±0.5	±0.5
Potential Isolation					
Inputs for SmartWire-DT		Yes	Yes	Yes	Yes
Outputs to SmartWire-DT		—	Yes	—	—
Input to input		No	No	No	No
Output to input		—	No	—	—
Output to output		—	No	—	—

Accessories

Description	Unit	SWD4-RC8-10 Resistor	SWD4-8SF2-5 Plug	SWD4-8SFF2-5 Coupling	SWD4-SF8-20 Bushing
General					
Standards		IEC/EN 61131-2; EN 50178	IEC/EN 61131-2; EN 50178	IEC/EN 61131-2; EN 50178	IEC/EN 61131-2; EN 50178
Dimensions (W x H x D)	in (mm)	1.91 x 1.36 x 0.34 (48.5 x 34.5 x 10)	0.59 x 1.44 x 0.69 (15 x 36.5 x 17.5)	1.91 x 1.36 x 0.34 (48.5 x 34.5 x 10)	0.94 x 1.02 x 6.34 (24 x 26 x 162)
Weight	lbs (g)	0.022 (10)	0.012.1 (5.5)	0.010 (4.5)	0.044 (20)
Mounting position		As required	As required	As required	As required
Ambient Conditions, Mechanical					
Degree of protection (IEC/EN 60529)		IP20	IP20	IP20	IP67
Vibrations (IEC/EN 61131-2:2008)					
Constant amplitude 3.5 mm	Hz	5–8.4	5–8.4	5–8.4	—
Constant acceleration 1 g	Hz	8.4–150	8.4–150	8.4–150	—
Mechanical shock resistance (IEC/EN 60068-2-27) semi-sinusoidal 15 g/11 ms	Impacts	9	9	9	—
Drop to IEC/EN 60068-2-31 (drop height)	in (mm)	1.97 (50)	—	—	—
Free fall, packaged (IEC/EN 60068-2-32)	ft (m)	1.0 (0.3)	—	—	—
Electromagnetic Compatibility (EMC)					
Overvoltage category		II	—	—	—
Pollution degree		2	—	—	—
Electrostatic discharge (IEC/EN 61131-2:2008)					
Air discharge (Level 3)	kV	8	—	—	—
Contact discharge (Level 2)	kV	4	—	—	—
Electromagnetic fields (IEC/EN 61131-2:2008)					
80–1000 MHz	V/m	10	—	—	—
1.4–2 GHz	V/m	3	—	—	—
2–2.7 GHz	V/m	1	—	—	—
Radio interference suppression (SmartWire-DT)		EN 55011 Class A	—	—	—
Burst (IEC/EN 61131-2:2008, Level 3)					
SmartWire-DT cables	kV	1	—	—	—
Radiated RFI (IEC/EN 61131-2:2008, Level 3)	V	10	—	—	—
Climatic Environmental Conditions					
Operating ambient temperature (IEC 60068-2)	°F (°C)	–13° to 131° (–25° to 55°)	–13° to 131° (–25° to 55°)	–13° to 131° (–25° to 55°)	–13° to 131° (–25° to 55°)
Condensation			Prevent with suitable measures		
Storage	°F (°C)	–40° to 158° (–40° to 70°)	–40° to 158° (–40° to 70°)	–40° to 158° (–40° to 70°)	–40° to 158° (–40° to 70°)
Relative humidity, noncondensing (IEC/EN 60068-2-30)	%	5 –95	5 –95	5 –95	5 –95
Connection Options					
SWD-In		Plug, 8-pole	Plug connector	Plug, 8-pole	—
Number of insertion cycles		≥200	1	>200	—
SWD-Out		—	Socket, 8-pole	Plug, 8-pole	Socket, 8-pole
Number of insertion cycles		—	≥200	≥200	≥500
Current consumption (15 V SWD supply)		17 mA	—	—	—

Accessories, continued

Description	Unit	SWD4-SM8-20 Bushing	SWD4-8FRF-10 Adapter	SWD4-SFL8-20 Adapter	SWD4-SML8-20 Adapter
General					
Standards		IEC/EN 61131-2; EN 50178	IEC/EN 61131-2; EN 50178	IEC/EN 61131-2; EN 50178	IEC/EN 61131-2; EN 50178
Dimensions (W x H x D)	in (mm)	0.94 x 1.02 x 6.69 (24 x 26 x 170)	1.38 x 3.54 x 1.38 (35 x 90 x 35)	1.38 x 3.27 x 1.57 (35 x 83 x 40)	1.38 x 3.27 x 1.82 (35 x 83 x 46)
Weight	lbs (g)	0.050 (22.5)	0.093 (42)	0.110 (50)	0.110 (50)
Mounting position		As required	As required	As required	As required
Ambient Conditions, Mechanical					
Degree of protection (IEC/EN 60529)		IP67	IP20	IP67	IP67
Vibrations (IEC/EN 61131-2:2008)					
Constant amplitude 3.5 mm	Hz	—	5–8.4	5–8.4	5–8.4
Constant acceleration 1 g	Hz	—	8.4–150	8.4–150	8.4–150
Mechanical shock resistance (IEC/EN 60068-2-27) semi-sinusoidal 15 g/11 ms	Impacts	—	9	9	9
Drop to IEC/EN 60068-2-31 (drop height)	in (mm)	—	—	—	—
Free fall, packaged (IEC/EN 60068-2-32)	ft (m)	—	—	—	—
Electromagnetic Compatibility (EMC)					
Overvoltage category		—	—	—	—
Pollution degree		—	—	—	—
Electrostatic discharge (IEC/EN 61131-2:2008)					
Air discharge (Level 3)	kV	—	8	8	8
Contact discharge (Level 2)	kV	—	4	4	4
Electromagnetic fields (IEC/EN 61131-2:2008)					
80–1000 MHz	V/m	—	—	10	10
1.4–2 GHz	V/m	—	—	3	3
2–2.7 GHz	V/m	—	—	1	1
Radio interference suppression (SmartWire-DT)		—	—	—	—
Burst (IEC/EN 61131-2:2008, Level 3)		—	—	—	—
SmartWire-DT cables	kV	—	—	—	—
Radiated RFI (IEC/EN 61131-2:2008, Level 3)	V	—	—	10	10
Climatic Environmental Conditions					
Operating ambient temperature (IEC 60068-2)	°F (°C)	–13° to 131° (–25° to 55°)	–13° to 131° (–25° to 55°)	–13° to 131° (–25° to 55°)	–13° to 131° (–25° to 55°)
Condensation		Prevent with suitable measures			
Storage	°F (°C)	–40° to 158° (–40° to 70°)	–40° to 158° (–40° to 70°)	–40° to 158° (–40° to 70°)	–40° to 158° (–40° to 70°)
Relative humidity, noncondensing (IEC/EN 60068-2-30)	%	5–95	5–95	5–95	5–95
Connection Options					
SWD-In		Plug, 8-pole	Plug, 8-pole	Plug, 8-pole	Plug, 8-pole
Number of insertion cycles		≥500	≥200	≥200	≥500
SWD-Out		—	Push in terminals	Socket, 8-pole	Plug, 8-pole
Number of insertion cycles		—	—	≥500	≥200

Machine Mount I/O Modules

Description	Unit	EU1E-SWD-1DX	EU1E-SWD-2DX	EU1E-SWD-2DD	EU1E-SWD-1AX-1	EU1E-SWD-1AX-2	EU1E-SWD-1XA-1
General							
Standards				IEC / EN 61131-2, EN50178, IEC / EN 60529			
Dimensions (W x H x L)—reference only	mm	41 x 20 x 59	41 x 20 x 59	41 x 20 x 59	41 x 20 x 59	41 x 20 x 59	41 x 20 x 59
Weight	g / oz	65 / 2.3	65 / 2.3	65 / 2.3	65 / 2.3	65 / 2.3	65 / 2.3
Form factor		Single-T	Single-T	Single-T	Single-T	Single-T	Single-T
Enclosure material		MM 6208 (black)	MM 6208 (black)	MM 6208 (black)	MM 6208 (black)	MM 6208 (black)	MM 6208 (black)
Mounting	Qty	2 mounting holes or with bracket accessory	2 mounting holes or with bracket accessory	2 mounting holes or with bracket accessory	2 mounting holes or with bracket accessory	2 mounting holes or with bracket accessory	2 mounting holes or with bracket accessory
Ambient Conditions, Mechanical							
Protection type	Type	IP6K9K	IP6K9K	IP6K9K	IP6K9K	IP6K9K	IP6K9K
EN/IEC 60529	Type	IP6X / IPX7	IP6X / IPX7	IP6X / IPX7	IP6X / IPX7	IP6X / IPX7	IP6X / IPX7
UL Type		1	1	1	1	1	1
Vibrations							
Displacement 3.5 mm	Hz	5–8.4	5–8.4	5–8.4	5–8.4	5–8.4	5–8.4
Acceleration 1 g	Hz	8.4–150	8.4–150	8.4–150	8.4–150	8.4–150	8.4–150
Shock IEC 60068-2-27 1/2 sine 30 g/11 ms	Impacts	9	9	9	9	9	9
Drop to	Height, mm	50	50	50	50	50	50
Drop freefall	m	0.3	0.3	0.3	0.3	0.3	0.3
EMC							
Overvoltage category		II	II	II	II	II	II
Pollution degree		3	3	3	3	3	3
Electrostatic discharge		Performance Criterion B	Performance Criterion B	Performance Criterion B	Performance Criterion B	Performance Criterion B	Performance Criterion B
Air discharge (level 3)	kV	8	8	8	8	8	8
Contact discharge (level 2)	kV	4	4	4	4	4	4
Electromagnetic fields		Performance Criterion A	Performance Criterion A	Performance Criterion A	Performance Criterion A	Performance Criterion A	Performance Criterion A
80–1000 MHz	V/m	10	10	10	10	10	10
1.4–2 G	V/m	3	3	3	3	3	3
2–2.7 G	V/m	1	1	1	1	1	1
Radio interference suppression (SmartWire-DT) (emission and conducted interface voltage)	EN 55011	Class A	Class A	Class A	Class A	Class A	Class A
Burst (level 3)		Performance Criterion B	Performance Criterion B	Performance Criterion B	Performance Criterion B	Performance Criterion B	Performance Criterion B
Supply cables	kV	2	2	2	2	2	2
Signal cables	kV	1	1	1	1	1	1
SmartWire-DT cables	kV	1	1	1	2	2	2
Surge (level 1)		Performance Criterion B	Performance Criterion B	Performance Criterion B	Performance Criterion B	Performance Criterion B	Performance Criterion B
Supply cables	kV	0.5	0.5	0.5	0.5	0.5	0.5
I/O cables	kV	1	1	1	1	1	1
SmartWire-DT cables	kV	1	1	1	1	1	1
Radiated RFI (level 3) (150 kHz – 80 MHz)		Performance Criterion A	Performance Criterion A	Performance Criterion A	Performance Criterion A	Performance Criterion A	Performance Criterion A
Supply cables	V	10	10	10	10	10	10
I/O cables	V	10	10	10	10	10	10
SmartWire-DT cables	V	10	10	10	10	10	10
Voltage drops & interrupts	mS	10	10	10	10	10	10
Climatic Environmental Conditions							
Ambient temperature	Degrees C	–25 to +70	–25 to +70	–25 to +70	–25 to +70	–25 to +70	–25 to +70
Storage temperature	Degrees C	–40 to +70	–40 to +70	–40 to +70	–40 to +70	–40 to +70	–40 to +70
Humidity	% RH	95 at 55 °C / 5–95 condensation permitted	95 at 55 °C / 5–95 condensation permitted	95 at 55 °C / 5–95 condensation permitted	95 at 55 °C / 5–95 condensation permitted	95 at 55 °C / 5–95 condensation permitted	95 at 55 °C / 5–95 condensation permitted

Machine Mount I/O Modules, continued

Description	Unit	EU1E-SWD-1DX	EU1E-SWD-2DX	EU1E-SWD-2DD	EU1E-SWD-1AX-1	EU1E-SWD-1AX-2	EU1E-SWD-1XA-1
SmartWire-DT Network							
Stations type		SmartWire-DT slave	SmartWire-DT slave	SmartWire-DT slave	SmartWire-DT slave	SmartWire-DT slave	SmartWire-DT slave
Baud rate setting		Automatic	Automatic	Automatic	Automatic	Automatic	Automatic
Maximum	Bit/sec	2 M	2 M	2 M	2 M	2 M	2 M
SW-DT Status LED		Green (625 nm)	Green (625 nm)	Green (625 nm)	Green (625 nm)	Green (625 nm)	Green (625 nm)
Connectors, (IEC-61076-2-101)	M12 A Coding	—	—	—	—	—	—
SW-DT network input connector		M12-M / 5-pole	M12-M / 5-pole	M12-M 5-pole	M12-M 5-pole	M12-M 5-pole	M12-M 5-pole
Pin 1		24 Vdc	24 Vdc	24 Vdc	24 Vdc	24 Vdc	24 Vdc
Pin 2		Data A	Data A	Data A	Data A	Data A	Data A
Pin 3		GND	GND	GND	GND	GND	GND
Pin 4		Data B	Data B	Data B	Data B	Data B	Data B
Pin 5		SEL (IN)	SEL (IN)	SEL (IN)	SEL (IN)	SEL (IN)	SEL (IN)
SW-DT network output connector		M12-F / 5-pole	M12-F / 5-pole	M12-F 5-pole	M12-F 5-pole	M12-F 5-pole	M12-F 5-pole
Pin 1		24 Vdc	24 Vdc	24 Vdc	24 Vdc	24 Vdc	24 Vdc
Pin 2		Data A	Data A	Data A	Data A	Data A	Data A
Pin 3		GND	GND	GND	GND	GND	GND
Pin 4		Data B	Data B	Data B	Data B	Data B	Data B
Pin 5		SEL (OUT)	SEL (OUT)	SEL (OUT)	SEL (OUT)	SEL (OUT)	SEL (OUT)
24 Vdc Power							
SWD-T bus 24 Vdc							
Rated operational voltage	V/U_e	24 V –15% +20%	24 V –15% +20%	24 V –15% +20%	24 V –15% +20%	24 V –15% +20%	24 V –15% +20%
Residual ripple on the input voltage	%	≤5	≤5	≤5	≤5	≤5	≤5
Reverse Polarity Protection		Yes	Yes	Yes	Yes	Yes	Yes
Rated supply current	mA	55	55	58	46	46	52
Actuator external 24 Vdc							
Rated operational voltage	V/U_e	—	—	—	—	—	—
Reverse polarity protection		—	—	—	—	—	—
Maximum Current (total)	A	—	—	—	—	—	—
Connectors		—	—	—	—	—	—
Power in	Male	—	—	—	—	—	—
Pin 1	Std len	—	—	—	—	—	—
Pin 2	Std len	—	—	—	—	—	—
Pin 3	Std len	—	—	—	—	—	—
Pin 4	Ext len	—	—	—	—	—	—
Power out	Female	—	—	—	—	—	—
Pin 1		—	—	—	—	—	—
Pin 2		—	—	—	—	—	—
Pin 3		—	—	—	—	—	—
Pin 4		—	—	—	—	—	—
Power indication LED	Power in	—	—	—	—	—	—
Digital Inputs							
Input current	mA	Nominal 4 at 24 Vdc	Nominal 4 at 24 Vdc	Nominal 4 at 24 Vdc	—	—	—
Voltage level to (IEC / EN 61131-2)							
Limit value type 1		L < 5 Vdc; H > 15 Vdc	L < 5 Vdc; H > 15 Vdc	L < 5 Vdc; H > 15 Vdc	—	—	—
Input delay		H->L or L->H < 0.2 ms	H->L or L->H < 0.2 ms	H->L or L->H < 0.2 ms	—	—	—
Status display	LED	Yellow	Yellow	Yellow	—	—	—

Machine Mount I/O Modules, continued

Description	Unit	EU1E-SWD-1DX	EU1E-SWD-2DX	EU1E-SWD-2DD	EU1E-SWD-1AX-1	EU1E-SWD-1AX-2	EU1E-SWD-1XA-1
Digital Outputs							
Output driver circuit power source	Bus/ext	—	—	Bus	—	—	—
Output current	A	—	—	0.5 at 24 Vdc	—	—	—
Trip current SC	A	—	—	1.2 over 3 ms	—	—	—
Lamp load	W	—	—	≤3	—	—	—
Overload proof (IEC / EN 61131-2)		—	—	Yes w/diag	—	—	—
Switching capacity IEC 60947-5-1		—	—	DC-13	—	—	—
Status display	LED	—	—	Yellow	—	—	—
Total current all outputs	A	—	—	1	—	—	—
Analog							
Parameter setting							
Refresh rate	mS	—	—	—	20, 100, 250, 500	20, 100, 250, 500	—
Averaging (5 msec sample interval)	ON/OFF	—	—	—	ON/OFF	ON/OFF	—
Voltage							
Input voltage	V	—	—	—	0–10 Vdc	—	—
Input impedance	kohm	—	—	—	20	—	—
Output voltage	V	—	—	—	—	—	0–10 Vdc
Maximum output current	mA	—	—	—	—	—	10
Source impedance	kohm	—	—	—	—	—	0.22
Current							
Input current	mA	—	—	—	—	0–20 mA	—
Input impedance	ohms	—	—	—	—	225	—
Output current	mA	—	—	—	—	—	—
Source impedance	ohms	—	—	—	—	—	—
Converter							
Resolution	Bit	—	—	—	12	12	12
Conversion time	ms	—	—	—	20	20	20
Cumulative error	%	—	—	—	±1.0	±1.0	±1.0
Repetition accuracy	%	—	—	—	±0.5	±0.5	±0.5
Encoder							
Frequency response	Hz	—	—	—	—	—	—
Status indication LED							
Count pulse		—	—	—	—	—	—
Encoder status (input byte 0)	Bit	—	—	—	—	—	—
Referencing active status	0	—	—	—	—	—	—
Reference status	1	—	—	—	—	—	—
Reference line state	2	—	—	—	—	—	—
Zero crossing	3	—	—	—	—	—	—
Control settings (output byte 0)	Bit	—	—	—	—	—	—
Count control	0	—	—	—	—	—	—
Reference enable (ActRef)	1	—	—	—	—	—	—
Reference control	2	—	—	—	—	—	—
Asynchronous reset	3	—	—	—	—	—	—
Zero crossing acknowledge	4	—	—	—	—	—	—

Machine Mount I/O Modules, continued

Description	Unit	EU1E-SWD-1DX	EU1E-SWD-2DX	EU1E-SWD-2DD	EU1E-SWD-1AX-1	EU1E-SWD-1AX-2	EU1E-SWD-1XA-1
Temperature							
Parameter setting							
Temperature sensor		—	—	—	—	—	—
Averaging		—	—	—	—	—	—
Range		—	—	—	—	—	—
Temperature range							
PT100 (1)	°C	—	—	—	—	—	—
PT1000 (1)	°C	—	—	—	—	—	—
Ni1000 (1)	°C	—	—	—	—	—	—
PT100 (2)	°C	—	—	—	—	—	—
PT1000 (2)	°C	—	—	—	—	—	—
Ni1000 (2)	°C	—	—	—	—	—	—
Converter							
Resolution (converter)	Bit	—	—	—	—	—	—
Conversion time	ms	—	—	—	—	—	—
Cumulative error	%	—	—	—	—	—	—
Repetition accuracy	%	—	—	—	—	—	—
Display		—	—	—	—	—	—
Resolution (temperature)	°C	—	—	—	—	—	—
I/O Configurations							
24 Vdc bus power to I/O devices	Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Galvanic isolation of I/O circuitry	Y/N	No	No	No	No	No	No
Operating power per connection	A	0.3	0.3	0.3	0.3	0.3	0.3
Internally power limited (PTC)	Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Overload threshold per connection	A	0.6	0.6	0.6	0.6	0.6	0.6
Overload recovery time	S	0.6	0.6	0.6	0.6	0.6	0.6
Maximum allowed total current	A	1	1	1	1	1	1
I/O types							
Configurable (digital I/O)	I/O point	—	—	2	—	—	—
Digital IN (sinking)	I/O point	1	2	Up to 2	—	—	—
Digital OUT (sourcing)	I/O point	—	—	Up to 2	—	—	—
Analog IN	I/O point	—	—	—	1	1	—
Analog OUT	I/O point	—	—	—	—	—	1
Encoder IN	I/O point	—	—	—	—	—	—
Temperature sensor input	I/O point	—	—	—	—	—	—
I/O connectors, (IEC-61076-2-101)	M12 A Coding	1x M12-F / 5-pole	1x M12-F / 5-pole	1x M12-F / 5-pole	1x M12-F / 5-pole	1x M12-F / 5-pole	1x M12-F / 5-pole
Active circuits loaded in connector	Circuits	3	4	4	4	4	4

Machine Mount I/O Modules, continued

Description	Unit	EU1E-SWD-1DX	EU1E-SWD-2DX	EU1E-SWD-2DD	EU1E-SWD-1AX-1	EU1E-SWD-1AX-2	EU1E-SWD-1XA-1
I/O Configurations, continued							
I/O connector pin outs		—	—	—	—	—	—
I/O Connector–1							
Pin 1		24 Vdc	24 Vdc	24 Vdc	24 Vdc	24 Vdc	24 Vdc
Pin 2		N/C	Input Ch 1	I/O Ch 1	In -	In -	Out -
Pin 3		GND	GND	GND	GND	GND	GND
Pin 4		Input Ch 0	Input Ch 0	I/O Ch 0	In +	In +	Out +
Pin 5		N/C	N/C	N/C	N/C	N/C	N/C
Pin 6		—	—	—	—	—	—
Pin 7		—	—	—	—	—	—
Pin 8		—	—	—	—	—	—
I/O Connector–2							
Pin 1		—	—	—	—	—	—
Pin 2		—	—	—	—	—	—
Pin 3		—	—	—	—	—	—
Pin 4		—	—	—	—	—	—
Pin 5		—	—	—	—	—	—
I/O Connector–3							
Pin 1		—	—	—	—	—	—
Pin 2		—	—	—	—	—	—
Pin 3		—	—	—	—	—	—
Pin 4		—	—	—	—	—	—
Pin 5		—	—	—	—	—	—
I/O Connector–4							
Pin 1		—	—	—	—	—	—
Pin 2		—	—	—	—	—	—
Pin 3		—	—	—	—	—	—
Pin 4		—	—	—	—	—	—
Pin 5		—	—	—	—	—	—
I/O Connector–5							
Pin 1		—	—	—	—	—	—
Pin 2		—	—	—	—	—	—
Pin 3		—	—	—	—	—	—
Pin 4		—	—	—	—	—	—
Pin 5		—	—	—	—	—	—
I/O Connector–6							
Pin 1		—	—	—	—	—	—
Pin 2		—	—	—	—	—	—
Pin 3		—	—	—	—	—	—
Pin 4		—	—	—	—	—	—
Pin 5		—	—	—	—	—	—
I/O Connector–7							
Pin 1		—	—	—	—	—	—
Pin 2		—	—	—	—	—	—
Pin 3		—	—	—	—	—	—
Pin 4		—	—	—	—	—	—
Pin 5		—	—	—	—	—	—
I/O Connector–8							
Pin 1		—	—	—	—	—	—
Pin 2		—	—	—	—	—	—
Pin 3		—	—	—	—	—	—
Pin 4		—	—	—	—	—	—
Pin 5		—	—	—	—	—	—

Machine Mount I/O Modules, continued

Description	Unit	EU1E-SWD-1XA-2	EU1E-SWD-1CX	EU2E-SWD-2DX	EU2E-SWD-4DX	EU2E-SWD-4DD	EU2E-SWD-4DD-1
General							
Standards				IEC / EN 61131-2, EN50178, IEC / EN 60529			
Dimensions (W x H x L)—reference only	mm	41 x 20 x 59	41 x 20 x 59	41 x 20 x 71	41 x 20 x 71	41 x 20 x 71	41 x 20 x 71
Weight	g / oz	65 / 2.3	65 / 2.3	85 / 3.0	85 / 3.0	85 / 3.0	85 / 3.0
Form factor		Single-T	Single-T	Dual-T	Dual-T	Dual-T	Dual-T
Enclosure material		MM 6208 (black)	MM 6208 (black)	MM 6208 (black)	MM 6208 (black)	MM 6208 (black)	MM 6208 (black)
Mounting	Qty	2 mounting holes or with bracket accessory	2 mounting holes or with bracket accessory	2 mounting holes or with bracket accessory	2 mounting holes or with bracket accessory	2 mounting holes or with bracket accessory	2 mounting holes or with bracket accessory
Ambient Conditions, Mechanical							
Protection type	Type	IP6K9K	IP6K9K	IP6K9K	IP6K9K	IP6K9K	IP6K9K
EN/IEC 60529	Type	IP6X / IPX7	IP6X / IPX7	IP6X / IPX7	IP6X / IPX7	IP6X / IPX7	IP6X / IPX7
UL Type		1	1	1	1	1	1
Vibrations							
Displacement 3.5 mm	Hz	5–8.4	5–8.4	5–8.4	5–8.4	5–8.4	5–8.4
Acceleration 1 g	Hz	8.4–150	8.4–150	8.4–150	8.4–150	8.4–150	8.4–150
Shock IEC 60068-2-27 1/2 sine 30 g/11 ms	Impacts	9	9	9	9	9	9
Drop to	Height, mm	50	50	50	50	50	50
Drop freefall	m	0.3	0.3	0.3	0.3	0.3	0.3
EMC							
Overvoltage category		II	II	II	II	II	II
Pollution degree		3	3	3	3	3	3
Electrostatic discharge		Performance Criterion B	Performance Criterion B	Performance Criterion B	Performance Criterion B	Performance Criterion B	Performance Criterion B
Air discharge (level 3)	kV	8	8	8	8	8	8
Contact discharge (level 2)	kV	4	4	4	4	4	4
Electromagnetic fields		Performance Criterion A	Performance Criterion A	Performance Criterion A	Performance Criterion A	Performance Criterion A	Performance Criterion A
80–1000 MHz	V/m	10	10	10	10	10	10
1.4–2 G	V/m	3	3	3	3	3	3
2–2.7 G	V/m	1	1	1	1	1	1
Radio interference suppression (SmartWire-DT) (emission and conducted interface voltage)	EN 55011	Class A	Class A	Class A	Class A	Class A	Class A
Burst (level 3)		Performance Criterion B	Performance Criterion B	Performance Criterion B	Performance Criterion B	Performance Criterion B	Performance Criterion B
Supply cables	kV	2	2	2	2	2	2
Signal cables	kV	1	1	1	1	1	1
SmartWire-DT cables	kV	2	1	1	1	1	1
Surge (level 1)		Performance Criterion B	Performance Criterion B	Performance Criterion B	Performance Criterion B	Performance Criterion B	Performance Criterion B
Supply cables	kV	0.5	0.5	0.5	0.5	0.5	0.5
I/O cables	kV	1	1	1	1	1	1
SmartWire-DT cables	kV	1	1	1	1	1	1
Radiated RFI (level 3) (150 kHz – 80 MHz)		Performance Criterion A	Performance Criterion A	Performance Criterion A	Performance Criterion A	Performance Criterion A	Performance Criterion A
Supply cables	V	10	10	10	10	10	10
I/O cables	V	10	10	10	10	10	10
SmartWire-DT cables	V	10	10	10	10	10	10
Voltage drops & interrupts	mS	10	10	10	10	10	10
Climatic Environmental Conditions							
Ambient temperature	Degrees C	–25 to +70	–25 to +70	–25 to +70	–25 to +70	–25 to +70	–25 to +70
Storage temperature	Degrees C	–40 to +70	–40 to +70	–40 to +70	–40 to +70	–40 to +70	–40 to +70
Humidity	% RH	95 at 55 °C / 5–95 condensation permitted	95 at 55 °C / 5–95 condensation permitted	95 at 55 °C / 5–95 condensation permitted	95 at 55 °C / 5–95 condensation permitted	95 at 55 °C / 5–95 condensation permitted	95 at 55 °C / 5–95 condensation permitted

Machine Mount I/O Modules, continued

Description	Unit	EU1E-SWD-1XA-2	EU1E-SWD-1CX	EU2E-SWD-2DX	EU2E-SWD-4DX	EU2E-SWD-4DD	EU2E-SWD-4DD-1
SmartWire-DT Network							
Stations type		SmartWire-DT slave	SmartWire-DT slave	SmartWire-DT slave	SmartWire-DT slave	SmartWire-DT slave	SmartWire-DT slave
Baud rate setting		Automatic	Automatic	Automatic	Automatic	Automatic	Automatic
Maximum	Bit/sec	2 M	2 M	2 M	2 M	2 M	2 M
SW-DT Status LED		Green (625 nm)	Green (625 nm)	Green (625 nm)	Green (625 nm)	Green (625 nm)	Green (625 nm)
Connectors, (IEC-61076-2-101)	M12 A Coding	—	—	—	—	—	—
SW-DT network input connector		M12-M 5-pole	M12-M 5-pole	M12-M 5-pole	M12-M 5-pole	M12-M 5-pole	M12-M 5-pole
Pin 1		24 Vdc	24 Vdc	24 Vdc	24 Vdc	24 Vdc	24 Vdc
Pin 2		Data A	Data A	Data A	Data A	Data A	Data A
Pin 3		GND	GND	GND	GND	GND	GND
Pin 4		Data B	Data B	Data B	Data B	Data B	Data B
Pin 5		SEL (IN)	SEL (IN)	SEL (IN)	SEL (IN)	SEL (IN)	SEL (IN)
SW-DT network output connector		M12-F 5-pole	M12-F 5-pole	M12-F 5-pole	M12-F 5-pole	M12-F 5-pole	M12-F 5-pole
Pin 1		24 Vdc	24 Vdc	24 Vdc	24 Vdc	24 Vdc	24 Vdc
Pin 2		Data A	Data A	Data A	Data A	Data A	Data A
Pin 3		GND	GND	GND	GND	GND	GND
Pin 4		Data B	Data B	Data B	Data B	Data B	Data B
Pin 5		SEL (OUT)	SEL (OUT)	SEL (OUT)	SEL (OUT)	SEL (OUT)	SEL (OUT)
24 Vdc Power							
SWD-T bus 24 Vdc							
Rated operational voltage	V/U_e	24 V –15% +20%	24 V –15% +20%	24 V –15% +20%	24 V –15% +20%	24 V –15% +20%	24 V –15% +20%
Residual ripple on the input voltage	%	≤5	≤5	≤5	≤5	≤5	≤5
Reverse Polarity Protection		Yes	Yes	Yes	Yes	Yes	Yes
Rated supply current	mA	67	57	55	75	2080	2080
Actuator external 24 Vdc							
Rated operational voltage	V/U_e	—	—	—	—	—	—
Reverse polarity protection		—	—	—	—	—	—
Maximum Current (total)	A	—	—	—	—	—	—
Connectors		—	—	—	—	—	—
Power in	Male	—	—	—	—	—	—
Pin 1	Std len	—	—	—	—	—	—
Pin 2	Std len	—	—	—	—	—	—
Pin 3	Std len	—	—	—	—	—	—
Pin 4	Ext len	—	—	—	—	—	—
Power out	Female	—	—	—	—	—	—
Pin 1		—	—	—	—	—	—
Pin 2		—	—	—	—	—	—
Pin 3		—	—	—	—	—	—
Pin 4		—	—	—	—	—	—
Power indication LED	Power in	—	—	—	—	—	—
Digital Inputs							
Input current	mA	—	Nominal 4 at 24 Vdc	Nominal 4 at 24 Vdc	Nominal 4 at 24 Vdc	Nominal 4 at 24 Vdc	Nominal 4 at 24 Vdc
Voltage level to (IEC / EN 61131-2)		—	—	—	—	—	—
Limit value type 1		—	L < 5 Vdc; H > 15 Vdc	L < 5 Vdc; H > 15 Vdc	L < 5 Vdc; H > 15 Vdc	L < 5 Vdc; H > 15 Vdc	L < 5 Vdc; H > 15 Vdc
Input delay		—	H->L or L->H < 0.01ms	H->L or L->H < 0.2 ms	H->L or L->H < 0.2 ms	H->L or L->H < 0.2 ms	H->L or L->H < 0.2 ms
Status display	LED	—	—	Yellow	Yellow	Yellow	Yellow

Machine Mount I/O Modules, continued

Description	Unit	EU1E-SWD-1XA-2	EU1E-SWD-1CX	EU2E-SWD-2DX	EU2E-SWD-4DX	EU2E-SWD-4DD	EU2E-SWD-4DD-1
Digital Outputs							
Output driver circuit power source	Bus/ext	—	—	—	—	Bus	Bus
Output current	A	—	—	—	—	0.5 at 24 Vdc	0.5 at 24 Vdc
Trip current SC	A	—	—	—	—	1.2 over 3 ms	1.2 over 3 ms
Lamp load	W	—	—	—	—	≤3	≤3
Overload proof (IEC / EN 61131-2)		—	—	—	—	Yes w/diag	Yes w/diag
Switching capacity IEC 60947-5-1		—	—	—	—	DC-13	DC-13
Status display	LED	—	—	—	—	Yellow	Yellow
Total current all outputs	A	—	—	—	—	2	1.5
Analog							
Parameter setting							
Refresh rate	mS	—	—	—	—	—	—
Averaging (5 msec sample interval)	ON/OFF	—	—	—	—	—	—
Voltage							
Input voltage	V	—	—	—	—	—	—
Input impedance	kohm	—	—	—	—	—	—
Output voltage	V	—	—	—	—	—	—
Maximum output current	mA	—	—	—	—	—	—
Source impedance	kohm	—	—	—	—	—	—
Current							
Input current	mA	—	—	—	—	—	—
Input impedance	ohms	—	—	—	—	—	—
Output current	mA	0–20 mA	—	—	—	—	—
Source impedance	ohms	100	—	—	—	—	—
Converter							
Resolution	Bit	12	—	—	—	—	—
Conversion time	ms	20	—	—	—	—	—
Cumulative error	%	±1.0	—	—	—	—	—
Repetition accuracy	%	±0.5	—	—	—	—	—
Encoder							
Frequency response	Hz	—	max 15 K	—	—	—	—
Status indication LED							
Count pulse		—	Yellow	—	—	—	—
Encoder status (input byte 0)	Bit	—		—	—	—	—
Referencing active status	0	—	1 = Set by ActRef;	—	—	—	—
Reference status	1	—	1 = Referenced	—	—	—	—
Reference line state	2	—	1 = (R=1); 0 = (R=0)	—	—	—	—
Zero crossing	3	—	1 = (Cnt= 0); 0 = (Cnt <>0)	—	—	—	—
Control settings (output byte 0)	Bit	—		—	—	—	—
Count control	0	—	1 = Hold; 0 = Count	—	—	—	—
Reference enable (ActRef)	1	—	1 = Enable;	—	—	—	—
Reference control	2	—	1 = Permanent; 0 = Once	—	—	—	—
Asynchronous reset	3	—	1 = Asyc Reset (Cntr = Ref);	—	—	—	—
Zero crossing acknowledge	4	—	1 = Reset ZCA bit; 0	—	—	—	—

Machine Mount I/O Modules, continued

Description	Unit	EU1E-SWD-1XA-2	EU1E-SWD-1CX	EU2E-SWD-2DX	EU2E-SWD-4DX	EU2E-SWD-4DD	EU2E-SWD-4DD-1
Temperature							
Parameter setting							
Temperature sensor		—	—	—	—	—	—
Averaging		—	—	—	—	—	—
Range		—	—	—	—	—	—
Temperature range							
PT100 (1)	°C	—	—	—	—	—	—
PT1000 (1)	°C	—	—	—	—	—	—
Ni1000 (1)	°C	—	—	—	—	—	—
PT100 (2)	°C	—	—	—	—	—	—
PT1000 (2)	°C	—	—	—	—	—	—
Ni1000 (2)	°C	—	—	—	—	—	—
Converter							
Resolution (converter)	Bit	—	—	—	—	—	—
Conversion time	ms	—	—	—	—	—	—
Cumulative error	%	—	—	—	—	—	—
Repetition accuracy	%	—	—	—	—	—	—
Display		—	—	—	—	—	—
Resolution (temperature)	°C	—	—	—	—	—	—
I/O Configurations							
24 Vdc bus power to I/O devices	Y/N	—	—	—	—	—	—
Galvanic isolation of I/O circuitry	Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Operating power per connection	A	No	No	No	No	No	No
Internally power limited (PTC)	Y/N	0.3	0.3	0.3	0.3	0.3	0.3
Overload threshold per connection	A	Yes	Yes	Yes	Yes	Yes	Yes
Overload recovery time	S	0.6	0.6	0.6	0.6	0.6	0.6
Maximum allowed total current	A	1	1	1	2	2	2
I/O types		1	1	2	2	2	2
Configurable (digital I/O)	I/O point	—	—	—	—	—	—
Digital IN (sinking)	I/O point	—	—	—	—	4	4
Digital OUT (sourcing)	I/O point	—	—	2	4	Up to 4	Up to 4
Analog IN	I/O point	—	—	—	—	Up to 4	Up to 4
Analog OUT	I/O point	—	—	—	—	—	—
Encoder IN	I/O point	1	—	—	—	—	—
Temperature sensor input	I/O point	—	3	—	—	—	—
I/O connectors, (IEC-61076-2-101)	M12 A Coding	—	—	—	—	—	—
Active circuits loaded in connector	Circuits	1x M12-F / 5-pole	1x M12-F / 5-pole	2x M12-F / 5-pole	2x M12-F / 5-pole	2x M12-F / 5-pole	2x M12-F / 5-pole

Machine Mount I/O Modules, continued

Description	Unit	EU1E-SWD-1XA-2	EU1E-SWD-1CX	EU2E-SWD-2DX	EU2E-SWD-4DX	EU2E-SWD-4DD	EU2E-SWD-4DD-1
I/O Configurations, continued							
I/O connector pin outs							
I/O Connector–1							
Pin 1		24 Vdc	24 Vdc	24 Vdc	24 Vdc	24 Vdc	24 Vdc
Pin 2		Out -	Ch B	N/C	In Ch 1	I/O Ch 1	N/C
Pin 3		GND	GND	GND	GND	GND	GND
Pin 4		Out +	Ch A	In Ch 0	In Ch 0	I/O Ch 0	I/O Ch 0
Pin 5		N/C	Ch R	N/C	In Ch 3	N/C	N/C
Pin 6		—	—	—	—	—	—
Pin 7		—	—	—	—	—	—
Pin 8		—	—	—	—	—	—
I/O Connector–2							
Pin 1		—	—	24 Vdc	24 Vdc	24 Vdc	24 Vdc
Pin 2		—	—	N/C	In Ch 3	I/O Ch 3	I/O Ch 3
Pin 3		—	—	GND	GND	GND	GND
Pin 4		—	—	In Ch 2	In Ch 2	I/O Ch 2	I/O Ch 2
Pin 5		—	—	N/C	In Ch 1	N/C	I/O Ch 1
I/O Connector–3							
Pin 1		—	—	—	—	—	—
Pin 2		—	—	—	—	—	—
Pin 3		—	—	—	—	—	—
Pin 4		—	—	—	—	—	—
Pin 5		—	—	—	—	—	—
I/O Connector–4							
Pin 1		—	—	—	—	—	—
Pin 2		—	—	—	—	—	—
Pin 3		—	—	—	—	—	—
Pin 4		—	—	—	—	—	—
Pin 5		—	—	—	—	—	—
I/O Connector–5							
Pin 1		—	—	—	—	—	—
Pin 2		—	—	—	—	—	—
Pin 3		—	—	—	—	—	—
Pin 4		—	—	—	—	—	—
Pin 5		—	—	—	—	—	—
I/O Connector–6							
Pin 1		—	—	—	—	—	—
Pin 2		—	—	—	—	—	—
Pin 3		—	—	—	—	—	—
Pin 4		—	—	—	—	—	—
Pin 5		—	—	—	—	—	—
I/O Connector–7							
Pin 1		—	—	—	—	—	—
Pin 2		—	—	—	—	—	—
Pin 3		—	—	—	—	—	—
Pin 4		—	—	—	—	—	—
Pin 5		—	—	—	—	—	—
I/O Connector–8							
Pin 1		—	—	—	—	—	—
Pin 2		—	—	—	—	—	—
Pin 3		—	—	—	—	—	—
Pin 4		—	—	—	—	—	—
Pin 5		—	—	—	—	—	—

Machine Mount I/O Modules, continued

Description	Unit	EU2E-SWD-2PT	EU6E-SWD-4DX	EU6E-SWD-4XD-1	EU6E-SWD-4XD-2	EU6E-SWD-2D2D-1	EU6E-SWD-2D2D-2
General							
Standards				IEC / EN 61131-2, EN50178, IEC / EN 60529			
Dimensions (W x H x L)—reference only	mm	41 x 20 x 71	60 x 20 x As Req	60 x 20 x As Req	60 x 20 x As Req	60 x 20 x As Req	60 x 20 x As Req
Weight	g / oz	85 / 3.0	234 / 8.3	267 / 9.4	267 / 9.4	267 / 9.4	267 / 9.4
Form factor		Dual-T	MultiBlock (Quad)	MultiBlock (Quad)	MultiBlock (Quad)	MultiBlock (Quad)	MultiBlock (Quad)
Enclosure material		MM 6208 (black)	Polyester	Polyester	Polyester	Polyester	Polyester
Mounting	Qty	2 mounting holes or with bracket accessory	5 mounting holes or with bracket accessory	5 mounting holes or with bracket accessory	5 mounting holes or with bracket accessory	5 mounting holes or with bracket accessory	5 mounting holes or with bracket accessory
Ambient Conditions, Mechanical							
Protection type	Type	IP6K9K	IP6K9K	IP6K9K	IP6K9K	IP6K9K	IP6K9K
EN/IEC 60529	Type	IP6X / IPX7	IP6X / IPX7	IP6X / IPX7	IP6X / IPX7	IP6X / IPX7	IP6X / IPX7
UL Type		1	1	1	1	1	1
Vibrations							
Displacement 3.5 mm	Hz	5–8.4	5–8.4	5–8.4	5–8.4	5–8.4	5–8.4
Acceleration 1 g	Hz	8.4–150	8.4–150	8.4–150	8.4–150	8.4–150	8.4–150
Shock IEC 60068-2-27 1/2 sine 30 g/11 ms	Impacts	9	9	9	9	9	9
Drop to	Height, mm	50	50	50	50	50	50
Drop freefall	m	0.3	0.3	0.3	0.3	0.3	0.3
EMC							
Overvoltage category		II	II	II	II	II	II
Pollution degree		3	3	3	3	3	3
Electrostatic discharge		Performance Criterion B	Performance Criterion B	Performance Criterion B	Performance Criterion B	Performance Criterion B	Performance Criterion B
Air discharge (level 3)	kV	8	8	8	8	8	8
Contact discharge (level 2)	kV	4	4	4	4	4	4
Electromagnetic fields		Performance Criterion A	Performance Criterion A	Performance Criterion A	Performance Criterion A	Performance Criterion A	Performance Criterion A
80–1000 MHz	V/m	10	10	10	10	10	10
1.4–2 G	V/m	3	3	3	3	3	3
2–2.7 G	V/m	1	1	1	1	1	1
Radio interference suppression (SmartWire-DT) (emission and conducted interface voltage)	EN 55011	Class A	Class A	Class A	Class A	Class A	Class A
Burst (level 3)		Performance Criterion B	Performance Criterion B	Performance Criterion B	Performance Criterion B	Performance Criterion B	Performance Criterion B
Supply cables	kV	2	2	2	2	2	2
Signal cables	kV	1	1	1	1	1	1
SmartWire-DT cables	kV	2	1	1	1	1	1
Surge (level 1)		Performance Criterion B	Performance Criterion B	Performance Criterion B	Performance Criterion B	Performance Criterion B	Performance Criterion B
Supply cables	kV	0.5	0.5	0.5	0.5	0.5	0.5
I/O cables	kV	1	1	1	1	1	1
SmartWire-DT cables	kV	1	1	1	1	1	1
Radiated RFI (level 3) (150 kHz – 80 MHz)		Performance Criterion A	Performance Criterion A	Performance Criterion A	Performance Criterion A	Performance Criterion A	Performance Criterion A
Supply cables	V	10	10	10	10	10	10
I/O cables	V	10	10	10	10	10	10
SmartWire-DT cables	V	10	10	10	10	10	10
Voltage drops & interrupts	mS	10	10	10	10	10	10
Climatic Environmental Conditions							
Ambient temperature	Degrees C	–25 to +70	–25 to +70	–25 to +70	–25 to +70	–25 to +70	–25 to +70
Storage temperature	Degrees C	–40 to +70	–40 to +70	–40 to +70	–40 to +70	–40 to +70	–40 to +70
Humidity	% RH	95 at 55 °C / 5–95 condensation permitted	95 at 55 °C / 5–95 condensation permitted	95 at 55 °C / 5–95 condensation permitted	95 at 55 °C / 5–95 condensation permitted	95 at 55 °C / 5–95 condensation permitted	95 at 55 °C / 5–95 condensation permitted

Machine Mount I/O Modules, continued

Description	Unit	EU2E-SWD-2PT	EU6E-SWD-4DX	EU6E-SWD-4XD-1	EU6E-SWD-4XD-2	EU6E-SWD-2D2D-1	EU6E-SWD-2D2D-2
SmartWire-DT Network							
Stations type		SmartWire-DT slave	SmartWire-DT slave	SmartWire-DT slave	SmartWire-DT slave	SmartWire-DT slave	SmartWire-DT slave
Baud rate setting		Automatic	Automatic	Automatic	Automatic	Automatic	Automatic
Maximum	Bit/sec	2 M	2 M	2 M	2 M	2 M	2 M
SW-DT Status LED		Green (625 nm)	Green (625 nm)	Green (625 nm)	Green (625 nm)	Green (625 nm)	Green (625 nm)
Connectors, (IEC-61076-2-101)	M12 A Coding	—	—	—	—	—	—
SW-DT network input connector		M12-M 5-pole	M12-M 5-pole	M12-M 5-pole	M12-M 5-pole	M12-M 5-pole	M12-M 5-pole
Pin 1		24 Vdc	24 Vdc	24 Vdc	24 Vdc	24 Vdc	24 Vdc
Pin 2		Data A	Data A	Data A	Data A	Data A	Data A
Pin 3		GND	GND	GND	GND	GND	GND
Pin 4		Data B	Data B	Data B	Data B	Data B	Data B
Pin 5		SEL (IN)	SEL (IN)	SEL (IN)	SEL (IN)	SEL (IN)	SEL (IN)
SW-DT network output connector		M12-F 5-pole	M12-F 5-pole	M12-F 5-pole	M12-F 5-pole	M12-F 5-pole	M12-F 5-pole
Pin 1		24 Vdc	24 Vdc	24 Vdc	24 Vdc	24 Vdc	24 Vdc
Pin 2		Data A	Data A	Data A	Data A	Data A	Data A
Pin 3		GND	GND	GND	GND	GND	GND
Pin 4		Data B	Data B	Data B	Data B	Data B	Data B
Pin 5		SEL (OUT)	SEL (OUT)	SEL (OUT)	SEL (OUT)	SEL (OUT)	SEL (OUT)
24 Vdc Power							
SWD-T bus 24 Vdc							
Rated operational voltage	V/U_e	24 V –15% +20%	24 V –15% +20%	24 V –15% +20%	24 V –15% +20%	24 V –15% +20%	24 V –15% +20%
Residual ripple on the input voltage	%	≤5	≤5	≤5	≤5	≤5	≤5
Reverse Polarity Protection		Yes	Yes	Yes	Yes	Yes	Yes
Rated supply current	mA	37	—	—	—		
Actuator external 24 Vdc							
Rated operational voltage	V/U_e	—	—	24 V	24 V	24 V	24 V
Reverse polarity protection		—	—	Yes	Yes	Yes	Yes
Maximum Current (total)	A	—	—	8	8	8	8
Connectors		—	—	7/8 in mini	7/8 in mini	7/8 in mini	7/8 in mini
Power in	Male	—	—	Male, 4-pole	Male, 4-pole	Male, 4-pole	Male, 4-pole
Pin 1	Std len	—	—	24 Vdc	24 Vdc	24 Vdc	24 Vdc
Pin 2	Std len	—	—	24 Vdc	24 Vdc	24 Vdc	24 Vdc
Pin 3	Std len	—	—	GND	GND	GND	GND
Pin 4	Ext len	—	—	GND	GND	GND	GND
Power out	Female	—	—	Female, 4-pole	Female, 4-pole	Female, 4-pole	Female, 4-pole
Pin 1		—	—	24 Vdc	24 Vdc	24 Vdc	24 Vdc
Pin 2		—	—	24 Vdc	24 Vdc	24 Vdc	24 Vdc
Pin 3		—	—	GND	GND	GND	GND
Pin 4		—	—	GND	GND	GND	GND
Power indication LED	Power in	—	—	Green (625 nm)	Green (625 nm)	Green (625 nm)	Green (625 nm)
Digital Inputs							
Input current	mA	—	Nominal 4 at 24 Vdc	—	—	Nominal 4 at 24 Vdc	Nominal 4 at 24 Vdc
Voltage level to (IEC / EN 61131-2)		—		—	—		
Limit value type 1		—	L < 5 Vdc; H > 15 Vdc	—	—	L < 5 Vdc; H > 15 Vdc	L < 5 Vdc; H > 15 Vdc
Input delay		—	H->L or L->H < 0.2 ms	—	—	H->L or L->H < 0.2 ms	H->L or L->H < 0.2 ms
Status display	LED	—	Yellow	—	—	Yellow	Yellow

Machine Mount I/O Modules, continued

Description	Unit	EU2E-SWD-2PT	EU6E-SWD-4DX	EU6E-SWD-4XD-1	EU6E-SWD-4XD-2	EU6E-SWD-2D2D-1	EU6E-SWD-2D2D-2
Digital Outputs							
Output driver circuit power source	Bus/ext	—	—	External	External	External	External
Output current	A	—	—	0.5 at 24 Vdc	2 at 24 Vdc	0.5 at 24 Vdc	2 at 24 Vdc
Trip current SC	A	—	—	1.2 over 3 ms	1.2 over 3 ms	1.2 over 3 ms	1.2 over 3 ms
Lamp load	W	—	—	≤3	≤3	≤3	≤3
Overload proof (IEC / EN 61131-2)		—	—	Yes w/diag	Yes w/diag	Yes w/diag	Yes w/diag
Switching capacity IEC 60947-5-1		—	—	DC-13	DC-13	DC-13	DC-13
Status display	LED	—	—	Yellow	Yellow	Yellow	Yellow
Total current all outputs	A	—	—	2	8	1	4
Analog							
Parameter setting							
Refresh rate	mS	—	—	—	—	—	—
Averaging (5 msec sample interval)	ON/OFF	—	—	—	—	—	—
Voltage							
Input voltage	V	—	—	—	—	—	—
Input impedance	kohm	—	—	—	—	—	—
Output voltage	V	—	—	—	—	—	—
Maximum output current	mA	—	—	—	—	—	—
Source impedance	kohm	—	—	—	—	—	—
Current							
Input current	mA	—	—	—	—	—	—
Input impedance	ohms	—	—	—	—	—	—
Output current	mA	—	—	—	—	—	—
Source impedance	ohms	—	—	—	—	—	—
Converter							
Resolution	Bit	—	—	—	—	—	—
Conversion time	ms	—	—	—	—	—	—
Cumulative error	%	—	—	—	—	—	—
Repetition accuracy	%	—	—	—	—	—	—
Encoder							
Frequency response	Hz	—	—	—	—	—	—
Status indication LED							
Count pulse		—	—	—	—	—	—
Encoder status (input byte 0)	Bit	—	—	—	—	—	—
Referencing active status	0	—	—	—	—	—	—
Reference status	1	—	—	—	—	—	—
Reference line state	2	—	—	—	—	—	—
Zero crossing	3	—	—	—	—	—	—
Control settings (output byte 0)	Bit	—	—	—	—	—	—
Count control	0	—	—	—	—	—	—
Reference enable (ActRef)	1	—	—	—	—	—	—
Reference control	2	—	—	—	—	—	—
Asynchronous reset	3	—	—	—	—	—	—
Zero crossing acknowledge	4	—	—	—	—	—	—

Machine Mount I/O Modules, continued

Description	Unit	EU2E-SWD-2PT	EU6E-SWD-4DX	EU6E-SWD-4XD-1	EU6E-SWD-4XD-2	EU6E-SWD-2D2D-1	EU6E-SWD-2D2D-2
Temperature							
Parameter setting							
Temperature sensor		PT100, PT1000,Ni1000	—	—	—	—	—
Averaging		Adjustable	—	—	—	—	—
Range		Selectable (1 of 2)	—	—	—	—	—
Temperature range							
PT100 (1)	°C	–50 to +200	—	—	—	—	—
PT1000 (1)	°C	–50 to +200	—	—	—	—	—
Ni1000 (1)	°C	–50 to +200	—	—	—	—	—
PT100 (2)	°C	–100 to +400	—	—	—	—	—
PT1000 (2)	°C	–100 to +400	—	—	—	—	—
Ni1000 (2)	°C	–100 to +400	—	—	—	—	—
Converter							
Resolution (converter)	Bit	12	—	—	—	—	—
Conversion time	ms	250	—	—	—	—	—
Cumulative error	%	±1.0	—	—	—	—	—
Repetition accuracy	%	±0.5	—	—	—	—	—
Display		°C, °F, raw value	—	—	—	—	—
Resolution (temperature)	°C	0.1	—	—	—	—	—
I/O Configurations							
24 Vdc bus power to I/O devices	Y/N	No	Yes	Yes	Yes	Yes	Yes
Galvanic isolation of I/O circuitry	Y/N	No	No	No	No	No	No
Operating power per connection	A	N/A	0.3	0.3	0.3	0.3	0.3
Internally power limited (PTC)	Y/N	No	Yes	Yes	Yes	Yes	Yes
Overload threshold per connection	A	N/A	0.6	0.6	0.6	0.6	0.6
Overload recovery time	S	N/A	0.6	0.6	0.6	0.6	0.6
Maximum allowed total current	A	N/A	4	4	4	4	4
I/O types							
Configurable (digital I/O)	I/O point	—	—	—	—	—	—
Digital IN (sinking)	I/O point	—	4	—	—	2	2
Digital OUT (sourcing)	I/O point	—	—	4	4	2	2
Analog IN	I/O point	—	—	—	—	—	—
Analog OUT	I/O point	—	—	—	—	—	—
Encoder IN	I/O point	—	—	—	—	—	—
Temperature sensor input	I/O point	2x 2 / 3 wire	—	—	—	—	—
I/O connectors, (IEC-61076-2-101)	M12 A Coding	2x M12-F / 5-pole	4x M12-F / 5-pole	4x M12-F / 5-pole	4x M12-F / 5-pole	4x M12-F / 5-pole	4x M12-F / 5-pole
Active circuits loaded in connector	Circuits	5	3	3	3	3	3

Machine Mount I/O Modules, continued

Description	Unit	EU2E-SWD-2PT	EU6E-SWD-4DX	EU6E-SWD-4XD-1	EU6E-SWD-4XD-2	EU6E-SWD-2D2D-1	EU6E-SWD-2D2D-2
I/O Configurations, continued							
I/O connector pin outs							
I/O Connector–1							
Pin 1		SWD Active Cap Detect	24 Vdc	24 Vdc	24 Vdc	24 Vdc	24 Vdc
Pin 2		T1b	N/C	N/C	N/C	N/C	N/C
Pin 3		GND	GND	GND	GND	GND	GND
Pin 4		T1a	In Ch 0	Out Ch 0	Out Ch 0	Out Ch 0	Out Ch 0
Pin 5		T1	N/C	N/C	N/C	N/C	N/C
Pin 6		—	—	—	—	—	—
Pin 7		—	—	—	—	—	—
Pin 8		—	—	—	—	—	—
I/O Connector–2							
Pin 1		SWD Active Cap Detect	24 Vdc	24 Vdc	24 Vdc	24 Vdc	24 Vdc
Pin 2		T2b	N/C	N/C	N/C	N/C	N/C
Pin 3		GND	GND	GND	GND	GND	GND
Pin 4		T2a	In Ch 2	Out Ch 2	Out Ch 2	Out Ch 2	Out Ch 2
Pin 5		T2	N/C	N/C	N/C	N/C	N/C
I/O Connector–3							
Pin 1		—	24 Vdc	24 Vdc	24 Vdc	24 Vdc	24 Vdc
Pin 2		—	N/C	N/C	N/C	N/C	N/C
Pin 3		—	GND	GND	GND	GND	GND
Pin 4		—	In Ch 4	Out Ch 4	Out Ch 4	In Ch 4	In Ch 4
Pin 5		—	N/C	N/C	N/C	N/C	N/C
I/O Connector–4							
Pin 1		—	24 Vdc	24 Vdc	24 Vdc	24 Vdc	24 Vdc
Pin 2		—	N/C	N/C	N/C	N/C	N/C
Pin 3		—	GND	GND	GND	GND	GND
Pin 4		—	In Ch 6	Out Ch 6	Out Ch 6	In Ch 6	In Ch 6
Pin 5		—	N/C	N/C	N/C	N/C	N/C
I/O Connector–5							
Pin 1		—	—	—	—	—	—
Pin 2		—	—	—	—	—	—
Pin 3		—	—	—	—	—	—
Pin 4		—	—	—	—	—	—
Pin 5		—	—	—	—	—	—
I/O Connector–6							
Pin 1		—	—	—	—	—	—
Pin 2		—	—	—	—	—	—
Pin 3		—	—	—	—	—	—
Pin 4		—	—	—	—	—	—
Pin 5		—	—	—	—	—	—
I/O Connector–7							
Pin 1		—	—	—	—	—	—
Pin 2		—	—	—	—	—	—
Pin 3		—	—	—	—	—	—
Pin 4		—	—	—	—	—	—
Pin 5		—	—	—	—	—	—
I/O Connector–8							
Pin 1		—	—	—	—	—	—
Pin 2		—	—	—	—	—	—
Pin 3		—	—	—	—	—	—
Pin 4		—	—	—	—	—	—
Pin 5		—	—	—	—	—	—

Machine Mount I/O Modules, continued

Description	Unit	EU6E-SWD-4D4D-1	EU6E-SWD-4D4D-2	EU6E-SWD-8DX	EU6E-SWD-8XD-1	EU6E-SWD-8DD	EU8E-SWD-8XD-1
General							
Standards				IEC / EN 61131-2, EN50178, IEC / EN 60529			
Dimensions (W x H x L)—reference only	mm	60 x 20 x As Req	60 x 20 x As Req	60 x 20 x As Req	60 x 20 x As Req	60 x 20 x As Req	60 x 20 x As Req
Weight	g / oz	267 / 9.4	267 / 9.4	234 / 8.3	267 / 9.4	234 / 8.3	369 / 13.0
Form factor		MultiBlock (Quad)	MultiBlock (Quad)	MultiBlock (Quad)	MultiBlock (Quad)	MultiBlock (Quad)	MultiBlock (Octal)
Enclosure material		Polyester	Polyester	Polyester	Polyester	Polyester	Polyester
Mounting	Qty	5 mounting holes or with bracket accessory	5 mounting holes or with bracket accessory	5 mounting holes or with bracket accessory	5 mounting holes or with bracket accessory	5 mounting holes or with bracket accessory	5 mounting holes or with bracket accessory
Ambient Conditions, Mechanical							
Protection type	Type	IP6K9K	IP6K9K	IP6K9K	IP6K9K	IP6K9K	IP6K9K
EN/IEC 60529	Type	IP6X / IPX7	IP6X / IPX7	IP6X / IPX7	IP6X / IPX7	IP6X / IPX7	IP6X / IPX7
UL Type		1	1	1	1	1	1
Vibrations							
Displacement 3.5 mm	Hz	5–8.4	5–8.4	5–8.4	5–8.4	5–8.4	5–8.4
Acceleration 1 g	Hz	8.4–150	8.4–150	8.4–150	8.4–150	8.4–150	8.4–150
Shock IEC 60068-2-27 1/2 sine 30 g/11 ms	Impacts	9	9	9	9	9	9
Drop to	Height, mm	50	50	50	50	50	50
Drop freefall	m	0.3	0.3	0.3	0.3	0.3	0.3
EMC							
Overvoltage category		II	II	II	II	II	II
Pollution degree		3	3	3	3	3	3
Electrostatic discharge		Performance Criterion B	Performance Criterion B	Performance Criterion B	Performance Criterion B	Performance Criterion B	Performance Criterion B
Air discharge (level 3)	kV	8	8	8	8	8	8
Contact discharge (level 2)	kV	4	4	4	4	4	4
Electromagnetic fields		Performance Criterion A	Performance Criterion A	Performance Criterion A	Performance Criterion A	Performance Criterion A	Performance Criterion A
80–1000 MHz	V/m	10	10	10	10	10	10
1.4–2 G	V/m	3	3	3	3	3	3
2–2.7 G	V/m	1	1	1	1	1	1
Radio interference suppression (SmartWire-DT) (emission and conducted interface voltage)	EN 55011	Class A	Class A	Class A	Class A	Class A	Class A
Burst (level 3)		Performance Criterion B	Performance Criterion B	Performance Criterion B	Performance Criterion B	Performance Criterion B	Performance Criterion B
Supply cables	kV	2	2	2	2	2	2
Signal cables	kV	1	1	1	1	1	1
SmartWire-DT cables	kV	1	1	1	1	1	1
Surge (level 1)		Performance Criterion B	Performance Criterion B	Performance Criterion B	Performance Criterion B	Performance Criterion B	Performance Criterion B
Supply cables	kV	0.5	0.5	0.5	0.5	0.5	0.5
I/O cables	kV	1	1	1	1	1	1
SmartWire-DT cables	kV	1	1	1	1	1	1
Radiated RFI (level 3) (150 kHz – 80 MHz)		Performance Criterion A	Performance Criterion A	Performance Criterion A	Performance Criterion A	Performance Criterion A	Performance Criterion A
Supply cables	V	10	10	10	10	10	10
I/O cables	V	10	10	10	10	10	10
SmartWire-DT cables	V	10	10	10	10	10	10
Voltage drops & interrupts	mS	10	10	10	10	10	10
Climatic Environmental Conditions							
Ambient temperature	Degrees C	–25 to +70	–25 to +70	–25 to +70	–25 to +70	–25 to +70	–25 to +70
Storage temperature	Degrees C	–40 to +70	–40 to +70	–40 to +70	–40 to +70	–40 to +70	–40 to +70
Humidity	% RH	95 at 55 °C / 5–95 condensation permitted	95 at 55 °C / 5–95 condensation permitted	95 at 55 °C / 5–95 condensation permitted	95 at 55 °C / 5–95 condensation permitted	95 at 55 °C / 5–95 condensation permitted	95 at 55 °C / 5–95 condensation permitted

Machine Mount I/O Modules, continued

Description	Unit	EU6E-SWD-4D4D-1	EU6E-SWD-4D4D-2	EU6E-SWD-8DX	EU6E-SWD-8XD-1	EU6E-SWD-8DD	EU8E-SWD-8XD-1
SmartWire-DT Network							
Stations type		SmartWire-DT slave	SmartWire-DT slave	SmartWire-DT slave	SmartWire-DT slave	SmartWire-DT slave	SmartWire-DT slave
Baud rate setting		Automatic	Automatic	Automatic	Automatic	Automatic	Automatic
Maximum	Bit/sec	2 M	2 M	2 M	2 M	2 M	2 M
SW-DT Status LED		Green (625 nm)	Green (625 nm)	Green (625 nm)	Green (625 nm)	Green (625 nm)	Green (625 nm)
Connectors, (IEC-61076-2-101)	M12 A Coding	—	—	—	—	—	—
SW-DT network input connector		M12-M 5-pole	M12-M 5-pole	M12-M 5-pole	M12-M 5-pole	M12-M 5-pole	M12-M 5-pole
Pin 1		24 Vdc	24 Vdc	24 Vdc	24 Vdc	24 Vdc	24 Vdc
Pin 2		Data A	Data A	Data A	Data A	Data A	Data A
Pin 3		GND	GND	GND	GND	GND	GND
Pin 4		Data B	Data B	Data B	Data B	Data B	Data B
Pin 5		SEL (IN)	SEL (IN)	SEL (IN)	SEL (IN)	SEL (IN)	SEL (IN)
SW-DT network output connector		M12-F 5-pole	M12-F 5-pole	M12-F 5-pole	M12-F 5-pole	M12-F 5-pole	M12-F 5-pole
Pin 1		24 Vdc	24 Vdc	24 Vdc	24 Vdc	24 Vdc	24 Vdc
Pin 2		Data A	Data A	Data A	Data A	Data A	Data A
Pin 3		GND	GND	GND	GND	GND	GND
Pin 4		Data B	Data B	Data B	Data B	Data B	Data B
Pin 5		SEL (OUT)	SEL (OUT)	SEL (OUT)	SEL (OUT)	SEL (OUT)	SEL (OUT)
24 Vdc Power							
SWD-T Bus 24 Vdc							
Rated operational voltage	V/U_e	24 V –15% +20%	24 V –15% +20%	24 V –15% +20%	24 V –15% +20%	24 V –15% +20%	24 V –15% +20%
Residual ripple on the input voltage	%	≤5	≤5	≤5	≤5	≤5	≤5
Reverse Polarity Protection		Yes	Yes	Yes	Yes	Yes	Yes
Rated supply current	mA			—	—	—	—
Actuator external 24 Vdc							
Rated operational voltage	V/U_e	24 V	24 V	—	24 V	—	24 V
Reverse polarity protection		Yes	Yes	—	Yes	—	Yes
Maximum Current (total)	A	8	8	—	8	—	8
Connectors		7/8 in mini	7/8 in mini	—	7/8 in mini	—	7/8 in mini
Power in	Male	Male, 4-pole	Male, 4-pole	—	Male, 4-pole	—	Male, 4-pole
Pin 1	Std len	24 Vdc	24 Vdc	—	24 Vdc	—	24 Vdc
Pin 2	Std len	24 Vdc	24 Vdc	—	24 Vdc	—	24 Vdc
Pin 3	Std len	GND	GND	—	GND	—	GND
Pin 4	Ext len	GND	GND	—	GND	—	GND
Power out	Female	Female, 4-pole	Female, 4-pole	—	Female, 4-pole	—	Female, 4-pole
Pin 1		24 Vdc	24 Vdc	—	24 Vdc	—	24 Vdc
Pin 2		24 Vdc	24 Vdc	—	24 Vdc	—	24 Vdc
Pin 3		GND	GND	—	GND	—	GND
Pin 4		GND	GND	—	GND	—	GND
Power indication LED	Power in	Green (625 nm)	Green (625 nm)	—	Green (625 nm)	—	Green (625 nm)
Digital Inputs							
Input current	mA	Nominal 4 at 24 Vdc	Nominal 4 at 24 Vdc	Nominal 4 at 24 Vdc	—	Nominal 4 at 24 Vdc	—
Voltage level to (IEC / EN 61131-2)							
Limit value type 1		L < 5 Vdc; H > 15 Vdc	L < 5 Vdc; H > 15 Vdc	L < 5 Vdc; H > 15 Vdc	—	L < 5 Vdc; H > 15 Vdc	—
Input delay		H->L or L->H < 0.2 ms	H->L or L->H < 0.2 ms	H->L or L->H < 0.2 ms	—	H->L or L->H < 0.2 ms	—
Status display	LED	Yellow	Yellow	Yellow	—	Yellow	—

Machine Mount I/O Modules, continued

Description	Unit	EU6E-SWD-4D4D-1	EU6E-SWD-4D4D-2	EU6E-SWD-8DX	EU6E-SWD-8XD-1	EU6E-SWD-8DD	EU8E-SWD-8XD-1
Digital Outputs							
Output driver circuit power source	Bus/ext	External	External	—	External	Bus	External
Output current	A	0.5 at 24 Vdc	2 at 24 Vdc	—	0.5 at 24 Vdc	0.5 at 24 Vdc	0.5 at 24 Vdc
Trip current SC	A	1.2 over 3 ms	1.2 over 3 ms	—	1.2 over 3 ms	1.2 over 3 ms	1.2 over 3 ms
Lamp load	W	≤3	≤3	—	≤3	≤3	≤3
Overload proof (IEC / EN 61131-2)		Yes w/diag	Yes w/diag	—	Yes w/diag	Yes w/diag	Yes w/diag
Switching capacity IEC 60947-5-1		DC-13	DC-13	—	DC-13	DC-13	DC-13
Status display	LED	Yellow	Yellow	—	Yellow	Yellow	Yellow
Total current all outputs	A	2	8	—	4	4	4
Analog							
Parameter setting							
Refresh rate	mS	—	—	—	—	—	—
Averaging (5 msec sample interval)	ON/OFF	—	—	—	—	—	—
Voltage							
Input voltage	V	—	—	—	—	—	—
Input impedance	kohm	—	—	—	—	—	—
Output voltage	V	—	—	—	—	—	—
Maximum output current	mA	—	—	—	—	—	—
Source impedance	kohm	—	—	—	—	—	—
Current							
Input current	mA	—	—	—	—	—	—
Input impedance	ohms	—	—	—	—	—	—
Output current	mA	—	—	—	—	—	—
Source impedance	ohms	—	—	—	—	—	—
Converter							
Resolution	Bit	—	—	—	—	—	—
Conversion time	ms	—	—	—	—	—	—
Cumulative error	%	—	—	—	—	—	—
Repetition accuracy	%	—	—	—	—	—	—
Encoder							
Frequency response	Hz	—	—	—	—	—	—
Status indication LED							
Count pulse		—	—	—	—	—	—
Encoder status (input byte 0)	Bit	—	—	—	—	—	—
Referencing active status	0	—	—	—	—	—	—
Reference status	1	—	—	—	—	—	—
Reference line state	2	—	—	—	—	—	—
Zero crossing	3	—	—	—	—	—	—
Control settings (output byte 0)	Bit	—	—	—	—	—	—
Count control	0	—	—	—	—	—	—
Reference enable (ActRef)	1	—	—	—	—	—	—
Reference control	2	—	—	—	—	—	—
Asynchronous reset	3	—	—	—	—	—	—
Zero crossing acknowledge	4	—	—	—	—	—	—

Machine Mount I/O Modules, continued

Description	Unit	EU6E-SWD-4D4D-1	EU6E-SWD-4D4D-2	EU6E-SWD-8DX	EU6E-SWD-8XD-1	EU6E-SWD-8DD	EU8E-SWD-8XD-1
Temperature							
Parameter setting							
Temperature sensor		—	—	—	—	—	—
Averaging		—	—	—	—	—	—
Range		—	—	—	—	—	—
Temperature range							
PT100 (1)	°C	—	—	—	—	—	—
PT1000 (1)	°C	—	—	—	—	—	—
Ni1000 (1)	°C	—	—	—	—	—	—
PT100 (2)	°C	—	—	—	—	—	—
PT1000 (2)	°C	—	—	—	—	—	—
Ni1000 (2)	°C	—	—	—	—	—	—
Converter							
Resolution (converter)	Bit	—	—	—	—	—	—
Conversion time	ms	—	—	—	—	—	—
Cumulative error	%	—	—	—	—	—	—
Repetition accuracy	%	—	—	—	—	—	—
Display		—	—	—	—	—	—
Resolution (temperature)	°C	—	—	—	—	—	—
I/O Configurations							
24 Vdc bus power to I/O devices	Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Galvanic isolation of I/O circuitry	Y/N	No	No	No	No	No	No
Operating power per connection	A	0.3	0.3	0.3	0.3	0.3	0.3
Internally power limited (PTC)	Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Overload threshold per connection	A	0.6	0.6	0.6	0.6	0.6	0.6
Overload recovery time	S	0.6	0.6	0.6	0.6	0.6	0.6
Maximum allowed total current	A	4	8	4	4	4	4
I/O types							
Configurable (digital I/O)	I/O point	—	—	—	—	8	—
Digital IN (sinking)	I/O point	4	4	8	—	Up to 8	—
Digital OUT (sourcing)	I/O point	4	4	—	8	Up to 8	8
Analog IN	I/O point	—	—	—	—	—	—
Analog OUT	I/O point	—	—	—	—	—	—
Encoder IN	I/O point	—	—	—	—	—	—
Temperature sensor input	I/O point	—	—	—	—	—	—
I/O connectors, (IEC-61076-2-101)	M12 A Coding	4x M12-F / 5-pole	4x M12-F / 5-pole	4x M12-F / 5-pole	4x M12-F / 5-pole	4x M12-F / 5-pole	8x M12-F / 5-pole
Active circuits loaded in connector	Circuits	4	4	4	4	4	3

Machine Mount I/O Modules, continued

Description	Unit	EU6E-SWD-4D4D-1	EU6E-SWD-4D4D-2	EU6E-SWD-8DX	EU6E-SWD-8XD-1	EU6E-SWD-8DD	EU8E-SWD-8XD-1
I/O Configurations, continued							
I/O connector pin outs							
I/O Connector–1							
Pin 1		24 Vdc	24 Vdc	24 Vdc	24 Vdc	24 Vdc	24 Vdc
Pin 2		Out Ch 1	Out Ch 1	In Ch 1	Out Ch 1	I/O Ch 1	N/C
Pin 3		GND	GND	GND	GND	GND	GND
Pin 4		Out Ch 0	Out Ch 0	In Ch 0	Out Ch 0	I/O Ch 0	Out Ch 0
Pin 5		N/C	N/C	N/C	N/C	N/C	N/C
Pin 6		—	—	—	—	—	—
Pin 7		—	—	—	—	—	—
Pin 8		—	—	—	—	—	—
I/O Connector–2							
Pin 1		24 Vdc	24 Vdc	24 Vdc	24 Vdc	24 Vdc	24 Vdc
Pin 2		Out Ch 3	Out Ch 3	In Ch 3	Out Ch 3	I/O Ch 3	N/C
Pin 3		GND	GND	GND	GND	GND	GND
Pin 4		Out Ch 2	Out Ch 2	In Ch 2	Out Ch 2	I/O Ch 2	Out Ch 2
Pin 5		N/C	N/C	N/C	N/C	N/C	N/C
I/O Connector–3							
Pin 1		24 Vdc	24 Vdc	24 Vdc	24 Vdc	24 Vdc	24 Vdc
Pin 2		In Ch 5	In Ch 5	In Ch 5	Out Ch 5	I/O Ch 5	N/C
Pin 3		GND	GND	GND	GND	GND	GND
Pin 4		In Ch 4	In Ch 4	In Ch 4	Out Ch 4	I/O Ch 4	Out Ch 4
Pin 5		N/C	N/C	N/C	N/C	N/C	N/C
I/O Connector–4							
Pin 1		24 Vdc	24 Vdc	24 Vdc	24 Vdc	24 Vdc	24 Vdc
Pin 2		In Ch 7	In Ch 7	In Ch 7	Out Ch 7	I/O Ch 7	N/C
Pin 3		GND	GND	GND	GND	GND	GND
Pin 4		In Ch 6	In Ch 6	In Ch 6	Out Ch 6	I/O Ch 6	Out Ch 6
Pin 5		N/C	N/C	N/C	N/C	N/C	N/C
I/O Connector–5							
Pin 1		—	—	—	—	—	24 Vdc
Pin 2		—	—	—	—	—	N/C
Pin 3		—	—	—	—	—	GND
Pin 4		—	—	—	—	—	Out Ch 8
Pin 5		—	—	—	—	—	N/C
I/O Connector–6							
Pin 1		—	—	—	—	—	24 Vdc
Pin 2		—	—	—	—	—	N/C
Pin 3		—	—	—	—	—	GND
Pin 4		—	—	—	—	—	Out Ch 10
Pin 5		—	—	—	—	—	N/C
I/O Connector–7							
Pin 1		—	—	—	—	—	24 Vdc
Pin 2		—	—	—	—	—	N/C
Pin 3		—	—	—	—	—	GND
Pin 4		—	—	—	—	—	Out Ch 12
Pin 5		—	—	—	—	—	N/C
I/O Connector–8							
Pin 1		—	—	—	—	—	24 Vdc
Pin 2		—	—	—	—	—	N/C
Pin 3		—	—	—	—	—	GND
Pin 4		—	—	—	—	—	Out Ch 14
Pin 5		—	—	—	—	—	N/C

Machine Mount I/O Modules, continued

Description	Unit	EU8E-SWD-4D4D-1	EU8E-SWD-8D8D-1	EU8E-SWD-16DX	EU8E-SWD-16XD-1	EU8E-SWD-16DD
General						
Standards		IEC / EN 61131-2, EN50178, IEC / EN 60529				
Dimensions (W x H x L)—reference only	mm	60 x 20 x As Req	60 x 20 x As Req	60 x 20 x As Req	60 x 20 x As Req	60 x 20 x As Req
Weight	g / oz	369 / 13.0	369 / 13.0	335 / 11.8	369 / 13.0	335 / 11.8
Form factor		MultiBlock (Octal)	MultiBlock (Octal)	MultiBlock (Octal)	MultiBlock (Octal)	MultiBlock (Octal)
Enclosure material		Polyester	Polyester	Polyester	Polyester	Polyester
Mounting	Qty	5 mounting holes or with bracket accessory	5 mounting holes or with bracket accessory	5 mounting holes or with bracket accessory	5 mounting holes or with bracket accessory	5 mounting holes or with bracket accessory
Ambient Conditions, Mechanical						
Protection type	Type	IP6K9K	IP6K9K	IP6K9K	IP6K9K	IP6K9K
EN/IEC 60529	Type	IP6X / IPX7	IP6X / IPX7	IP6X / IPX7	IP6X / IPX7	IP6X / IPX7
UL Type		1	1	1	1	1
Vibrations						
Displacement 3.5 mm	Hz	5–8.4	5–8.4	5–8.4	5–8.4	5–8.4
Acceleration 1 g	Hz	8.4–150	8.4–150	8.4–150	8.4–150	8.4–150
Shock IEC 60068-2-27 1/2 sine 30 g/11 ms	Impacts	9	9	9	9	9
Drop to	Height, mm	50	50	50	50	50
Drop freefall	m	0.3	0.3	0.3	0.3	0.3
EMC						
Overvoltage category		II	II	II	II	II
Pollution degree		3	3	3	3	3
Electrostatic discharge		Performance Criterion B	Performance Criterion B	Performance Criterion B	Performance Criterion B	Performance Criterion B
Air discharge (level 3)	kV	8	8	8	8	8
Contact discharge (level 2)	kV	4	4	4	4	4
Electromagnetic fields		Performance Criterion A	Performance Criterion A	Performance Criterion A	Performance Criterion A	Performance Criterion A
80–1000 MHz	V/m	10	10	10	10	10
1.4–2 G	V/m	3	3	3	3	3
2–2.7 G	V/m	1	1	1	1	1
Radio interference suppression (SmartWire-DT) (emission and conducted interface voltage)	EN 55011	Class A	Class A	Class A	Class A	Class A
Burst (level 3)		Performance Criterion B	Performance Criterion B	Performance Criterion B	Performance Criterion B	Performance Criterion B
Supply cables	kV	2	2	2	2	2
Signal cables	kV	1	1	1	1	1
SmartWire-DT cables	kV	1	1	1	1	1
Surge (level 1)		Performance Criterion B	Performance Criterion B	Performance Criterion B	Performance Criterion B	Performance Criterion B
Supply cables	kV	0.5	0.5	0.5	0.5	0.5
I/O cables	kV	1	1	1	1	1
SmartWire-DT cables	kV	1	1	1	1	1
Radiated RFI (level 3) (150 kHz – 80 MHz)		Performance Criterion A	Performance Criterion A	Performance Criterion A	Performance Criterion A	Performance Criterion A
Supply cables	V	10	10	10	10	10
I/O cables	V	10	10	10	10	10
SmartWire-DT cables	V	10	10	10	10	10
Voltage drops & interrupts	mS	10	10	10	10	10
Climatic Environmental Conditions						
Ambient temperature	Degrees C	–25 to +70	–25 to +70	–25 to +70	–25 to +70	–25 to +70
Storage temperature	Degrees C	–40 to +70	–40 to +70	–40 to +70	–40 to +70	–40 to +70
Humidity	% RH	95 at 55 °C / 5–95 condensation permitted	95 at 55 °C / 5–95 condensation permitted	95 at 55 °C / 5–95 condensation permitted	95 at 55 °C / 5–95 condensation permitted	95 at 55 °C / 5–95 condensation permitted

Machine Mount I/O Modules, continued

Description	Unit	EU8E-SWD-4D4D-1	EU8E-SWD-8D8D-1	EU8E-SWD-16DX	EU8E-SWD-16XD-1	EU8E-SWD-16DD
SmartWire-DT Network						
Stations type		SmartWire-DT slave	SmartWire-DT slave	SmartWire-DT slave	SmartWire-DT slave	SmartWire-DT slave
Baud rate setting		Automatic	Automatic	Automatic	Automatic	Automatic
Maximum	Bit/sec	2 M	2 M	2 M	2 M	2 M
SW-DT Status LED		Green (625 nm)	Green (625 nm)	Green (625 nm)	Green (625 nm)	Green (625 nm)
Connectors, (IEC-61076-2-101)	M12 A Coding	—	—	—	—	—
SW-DT network input connector		M12-M 5-pole	M12-M 5-pole	M12-M 5-pole	M12-M 5-pole	M12-M 5-pole
Pin 1		24 Vdc	24 Vdc	24 Vdc	24 Vdc	24 Vdc
Pin 2		Data A	Data A	Data A	Data A	Data A
Pin 3		GND	GND	GND	GND	GND
Pin 4		Data B	Data B	Data B	Data B	Data B
Pin 5		SEL (IN)	SEL (IN)	SEL (IN)	SEL (IN)	SEL (IN)
SW-DT network output connector		M12-F 5-pole	M12-F 5-pole	M12-F 5-pole	M12-F 5-pole	M12-F 5-pole
Pin 1		24 Vdc	24 Vdc	24 Vdc	24 Vdc	24 Vdc
Pin 2		Data A	Data A	Data A	Data A	Data A
Pin 3		GND	GND	GND	GND	GND
Pin 4		Data B	Data B	Data B	Data B	Data B
Pin 5		SEL (OUT)	SEL (OUT)	SEL (OUT)	SEL (OUT)	SEL (OUT)
24 Vdc Power						
SWD-T Bus 24 Vdc						
Rated operational voltage	V/U_e	24 V –15% +20%	24 V –15% +20%	24 V –15% +20%	24 V –15% +20%	24 V –15% +20%
Residual ripple on the input voltage	%	≤5	≤5	≤5	≤5	≤5
Reverse Polarity Protection		Yes	Yes	Yes	Yes	Yes
Rated supply current	mA	—	—	—	—	—
Actuator external 24 Vdc						
Rated operational voltage	V/U_e	24 V	24 V	—	24 V	—
Reverse polarity protection		Yes	Yes	—	Yes	—
Maximum Current (total)	A	8	8	—	8	—
Connectors		7/8 in mini	7/8 in mini	—	7/8 in mini	—
Power in	Male	Male, 4-pole	Male, 4-pole	—	Male, 4-pole	—
Pin 1	Std len	24 Vdc	24 Vdc	—	24 Vdc	—
Pin 2	Std len	24 Vdc	24 Vdc	—	24 Vdc	—
Pin 3	Std len	GND	GND	—	GND	—
Pin 4	Ext len	GND	GND	—	GND	—
Power out	Female	Female, 4-pole	Female, 4-pole	—	Female, 4-pole	—
Pin 1		24 Vdc	24 Vdc	—	24 Vdc	—
Pin 2		24 Vdc	24 Vdc	—	24 Vdc	—
Pin 3		GND	GND	—	GND	—
Pin 4		GND	GND	—	GND	—
Power indication LED	Power in	Green (625 nm)	Green (625 nm)	—	Green (625 nm)	—
Digital Inputs						
Input current	mA	Nominal 4 at 24 Vdc	Nominal 4 at 24 Vdc	Nominal 4 at 24 Vdc	—	Nominal 4 at 24 Vdc
Voltage level to (IEC / EN 61131-2)						
Limit value type 1		L < 5 Vdc; H > 15 Vdc	L < 5 Vdc; H > 15 Vdc	L < 5 Vdc; H > 15 Vdc	—	L < 5 Vdc; H > 15 Vdc
Input delay		H->L or L->H < 0.2 ms	H->L or L->H < 0.2 ms	H->L or L->H < 0.2 ms	—	H->L or L->H < 0.2 ms
Status display	LED	Yellow	Yellow	Yellow	—	Yellow

Machine Mount I/O Modules, continued

Description	Unit	EU8E-SWD-4D4D-1	EU8E-SWD-8D8D-1	EU8E-SWD-16DX	EU8E-SWD-16XD-1	EU8E-SWD-16DD
Digital Outputs						
Output driver circuit power source	Bus/ext	External	External	—	External	Bus
Output current	A	0.5 at 24 Vdc	0.5 at 24 Vdc	—	0.5 at 24 Vdc	0.5 at 24 Vdc
Trip current SC	A	1.2 over 3 ms	1.2 over 3 ms	—	1.2 over 3 ms	1.2 over 3 ms
Lamp load	W	≤3	≤3	—	≤3	≤3
Overload proof (IEC / EN 61131-2)		Yes w/diag	Yes w/diag	—	Yes w/diag	Yes w/diag
Switching capacity IEC 60947-5-1		DC-13	DC-13	—	DC-13	DC-13
Status display	LED	Yellow	Yellow	—	Yellow	Yellow
Total current all outputs	A	2	4	—	8	8
Analog						
Parameter setting						
Refresh rate	mS	—	—	—	—	—
Averaging (5 msec sample interval)	ON/OFF	—	—	—	—	—
Voltage						
Input voltage	V	—	—	—	—	—
Input impedance	kohm	—	—	—	—	—
Output voltage	V	—	—	—	—	—
Maximum output current	mA	—	—	—	—	—
Source impedance	kohm	—	—	—	—	—
Current						
Input current	mA	—	—	—	—	—
Input impedance	ohms	—	—	—	—	—
Output current	mA	—	—	—	—	—
Source impedance	ohms	—	—	—	—	—
Converter						
Resolution	Bit	—	—	—	—	—
Conversion time	ms	—	—	—	—	—
Cumulative error	%	—	—	—	—	—
Repetition accuracy	%	—	—	—	—	—
Encoder						
Frequency response	Hz	—	—	—	—	—
Status indication LED						
Count pulse		—	—	—	—	—
Encoder status (input byte 0)	Bit	—	—	—	—	—
Referencing active status	0	—	—	—	—	—
Reference status	1	—	—	—	—	—
Reference line state	2	—	—	—	—	—
Zero crossing	3	—	—	—	—	—
Control settings (output byte 0)	Bit	—	—	—	—	—
Count control	0	—	—	—	—	—
Reference enable (ActRef)	1	—	—	—	—	—
Reference control	2	—	—	—	—	—
Asynchronous reset	3	—	—	—	—	—
Zero crossing acknowledge	4	—	—	—	—	—

Machine Mount I/O Modules, continued

Description	Unit	EU8E-SWD-4D4D-1	EU8E-SWD-8D8D-1	EU8E-SWD-16DX	EU8E-SWD-16XD-1	EU8E-SWD-16DD
Temperature						
Parameter setting						
Temperature sensor		—	—	—	—	—
Averaging		—	—	—	—	—
Range		—	—	—	—	—
Temperature range						
PT100 (1)	°C	—	—	—	—	—
PT1000 (1)	°C	—	—	—	—	—
Ni1000 (1)	°C	—	—	—	—	—
PT100 (2)	°C	—	—	—	—	—
PT1000 (2)	°C	—	—	—	—	—
Ni1000 (2)	°C	—	—	—	—	—
Converter						
Resolution (converter)	Bit	—	—	—	—	—
Conversion time	ms	—	—	—	—	—
Cumulative error	%	—	—	—	—	—
Repetition accuracy	%	—	—	—	—	—
Display		—	—	—	—	—
Resolution (temperature)	°C	—	—	—	—	—
I/O Configurations						
24 Vdc bus power to I/O devices	Y/N	Yes	Yes	Yes	Yes	Yes
Galvanic isolation of I/O circuitry	Y/N	No	No	No	No	No
Operating power per connection	A	0.3	0.3	0.3	0.3	0.3
Internally power limited (PTC)	Y/N	Yes	Yes	Yes	Yes	Yes
Overload threshold per connection	A	0.6	0.6	0.6	0.6	0.6
Overload recovery time	S	0.6	0.6	0.6	0.6	0.6
Maximum allowed total current	A	4	4	4	8	8
I/O types						
Configurable (digital I/O)	I/O point	—	—	—	—	16
Digital IN (sinking)	I/O point	4	8	16	—	Up to 16
Digital OUT (sourcing)	I/O point	4	8	—	16	Up to 16
Analog IN	I/O point	—	—	—	—	—
Analog OUT	I/O point	—	—	—	—	—
Encoder IN	I/O point	—	—	—	—	—
Temperature sensor input	I/O point	—	—	—	—	—
I/O connectors, (IEC-61076-2-101)	M12 A Coding	8x M12-F / 5-pole	8x M12-F / 5-pole	8x M12-F / 5-pole	8x M12-F / 5-pole	8x M12-F / 5-pole
Active circuits loaded in connector	Circuits	3	4	4	4	4

Machine Mount I/O Modules, continued

Description	Unit	EU8E-SWD-4D4D-1	EU8E-SWD-8D8D-1	EU8E-SWD-16DX	EU8E-SWD-16XD-1	EU8E-SWD-16DD
I/O Configurations, continued						
I/O connector pin outs						
I/O Connector–1						
Pin 1		24 Vdc	24 Vdc	24 Vdc	24 Vdc	24 Vdc
Pin 2		N/C	Out Ch 1	In Ch 1	Out Ch 1	I/O Ch 1
Pin 3		GND	GND	GND	GND	GND
Pin 4		Out Ch 0	Out Ch 0	In Ch 0	Out Ch 0	I/O Ch 0
Pin 5		N/C	N/C	N/C	N/C	N/C
Pin 6		—	—	—	—	—
Pin 7		—	—	—	—	—
Pin 8		—	—	—	—	—
I/O Connector–2						
Pin 1		24 Vdc	24 Vdc	24 Vdc	24 Vdc	24 Vdc
Pin 2		N/C	Out Ch 3	In Ch 3	Out Ch 3	I/O Ch 3
Pin 3		GND	GND	GND	GND	GND
Pin 4		Out Ch 2	Out Ch 2	In Ch 2	Out Ch 2	I/O Ch 2
Pin 5		N/C	N/C	N/C	N/C	N/C
I/O Connector–3						
Pin 1		24 Vdc	24 Vdc	24 Vdc	24 Vdc	24 Vdc
Pin 2		N/C	Out Ch 5	In Ch 5	Out Ch 5	I/O Ch 5
Pin 3		GND	GND	GND	GND	GND
Pin 4		Out Ch 4	Out Ch 4	In Ch 4	Out Ch 4	I/O Ch 4
Pin 5		N/C	N/C	N/C	N/C	N/C
I/O Connector–4						
Pin 1		24 Vdc	24 Vdc	24 Vdc	24 Vdc	24 Vdc
Pin 2		N/C	Out Ch 7	In Ch 7	Out Ch 7	I/O Ch 7
Pin 3		GND	GND	GND	GND	GND
Pin 4		Out Ch 6	Out Ch 6	In Ch 6	Out Ch 6	I/O Ch 6
Pin 5		N/C	N/C	N/C	N/C	N/C
I/O Connector–5						
Pin 1		24 Vdc	24 Vdc	24 Vdc	24 Vdc	24 Vdc
Pin 2		N/C	In Ch 9	In Ch 9	Out Ch 9	I/O Ch 9
Pin 3		GND	GND	GND	GND	GND
Pin 4		In Ch 8	In Ch 8	In Ch 8	Out Ch 8	I/O Ch 8
Pin 5		N/C	N/C	N/C	N/C	N/C
I/O Connector–6						
Pin 1		24 Vdc	24 Vdc	24 Vdc	24 Vdc	24 Vdc
Pin 2		N/C	In Ch 11	In Ch 11	Out Ch 11	I/O Ch 11
Pin 3		GND	GND	GND	GND	GND
Pin 4		In Ch 10	In Ch 10	In Ch 10	Out Ch 10	I/O Ch 10
Pin 5		N/C	N/C	N/C	N/C	N/C
I/O Connector–7						
Pin 1		24 Vdc	24 Vdc	24 Vdc	24 Vdc	24 Vdc
Pin 2		N/C	In Ch 13	In Ch 13	Out Ch 13	I/O Ch 13
Pin 3		GND	GND	GND	GND	GND
Pin 4		In Ch 12	In Ch 12	In Ch 12	Out Ch 12	I/O Ch 12
Pin 5		N/C	N/C	N/C	N/C	N/C
I/O Connector–8						
Pin 1		24 Vdc	24 Vdc	24 Vdc	24 Vdc	24 Vdc
Pin 2		N/C	In Ch 15	In Ch 15	Out Ch 15	I/O Ch 15
Pin 3		GND	GND	GND	GND	GND
Pin 4		In Ch 14	In Ch 14	In Ch 14	Out Ch 14	I/O Ch 14
Pin 5		N/C	N/C	N/C	N/C	N/C

SWD Accessories

Specification	Unit	EU1S-SWD-PF1-2	SWD4-RC5-10	SWD4-ACAP-10	SWD4-SML8-12	SWD4-SFL8-12	SWD4-MNT-VER	SWD4-MNT-DIN
General								
Standards		IEC/EN 61131-2, EN50178, IEC / EN 60529	IEC/EN 61131-2, EN50178, IEC / EN 60529	IEC/EN 61131-2, EN50178, IEC / EN 60529	IEC/EN 61131-2, EN50178, IEC / EN 60529	IEC/EN 61131-2, EN50178, IEC / EN 60529	IEC/EN 61131-2, EN50178, IEC / EN 60529	IEC/EN 61131-2, EN50178, IEC / EN 60529
Dimensions (W x H x L)— reference only	mm	41 x 20 x 59	41 x 20 x 15	13 (dia) x 20 (len)	35 x 83 x 46	35 x 83 x 46	16.1 x 30.7 x 15.5	10.2 x 43 x 19
M12 I/O Connector spacing (L)	mm	—	—	—	—	—	—	—
Weight	g / oz	65 / 2.3	13 / 0.45	15 / 0.525	65/2.3	65/2.3	3.4 / 0.12	6.8 / 0.24
Form factor		Single-T	IP67 bus term	M12-M overload	IP20 enclosure	IP20 enclosure	M20 quick clip	DIN rail clips
Enclosure material	Tee	MM 6208 (black)	MM 6208 (black)	TPV	Thermoplastic	Thermoplastic	Thermoplastic	Thermoplastic
Mounting	Qty	2 mounting holes or with bracket accessory	Integral M12-M	Integral M12-M	Panel mount M12-M	Panel mount M12-F	Single mounting hole	To DIN rail
Ambient Conditions, Mechanical								
Protection type	Type	IP6K9K	IP6K9K	IP6K9K	IP6K9K	IP6K9K	—	—
EN/IEC 60529	Type	IP6X / IPX7	IP6X / IPX7	IP6X / IPX7	IP20	IP20	—	—
UL Type		1	1	1	1	1	—	—
Vibrations								
Displacement 3.5 mm	Hz	5–8.4	5–8.4	5–8.4	5–8.4	5–8.4	5–8.4	5–8.4
Acceleration 1 g	Hz	8.4–150	8.4–150	8.4–150	8.4–150	8.4–150	8.4–150	8.4–150
Shock IEC 60068-2-27 1/2 sine 30 g/11 ms	Impacts	9	9	9	9	9	9	9
Drop to	Height, mm	50	50	50	50	50	50	50
Drop freefall	m	0.3	0.3	0.3	0.3	0.3	0.3	0.3
EMC								
Overvoltage category		II	II	II	II	II	—	—
Pollution degree		3	3	3	2	2	—	—
Electrostatic discharge								
Air discharge (level 3)	kV	8	8	8	8	8	—	—
Contact discharge (level 2)	kV	4	4	4	4	4	—	—
Electromagnetic fields		Performance Criterion A	Performance Criterion A	Performance Criterion A	Performance Critierion A	Performance Criterion A	—	—
80–1000 MHz	V/m	10	10	10	10	10	—	—
1.4–2 G	V/m	3	3	3	3	3	—	—
2–2.7 G	V/m	1	1	1	1	1	—	—
Radio interference suppression (SmartWire-DT) (emission and conducted interface voltage)	EN 55011	Class A	Class A	Class A	Class A	Class A	—	—
Burst (level 3)		Performance Criterion B	Performance Critierion B	Performance Criterion B	Performance Criterion B	Performance Criterion B	—	—
Supply cables	kV	2	2	2	2	2	—	—
Signal cables	kV	1	2	2	1	1	—	—
SmartWire-DT cables	kV	1	2	2	1	1	—	—
Surge (level 1)		Performance Criterion B	Performance Criterion B	Performance Criterion B	Performance Criterion B	Performance Criterion B	—	—
Supply cables	kV	0.5	1	1	0.5	0.5	—	—
I/O cables	kV	1	1	1	1	1	—	—
SmartWire-DT cables	kV	1 kV (not possible according to EN61000-6-2 Table 2					—	—
Radiated RFI (level 3) (150 kHz – 80 MHz)		Performance Criterion A	Performance Criterion A	Performance Criterion A	Performance Criterion A	Performance Criterion A	—	—
Supply cables	V	10	10	10	10	10	—	—
I/O cables	V	10	10	10	10	10	—	—
SmartWire-DT cables	V	10	10	10	10	10	—	—
Voltage drops & interrupts	mS	10	10	10	10	10	—	—

SWD Accessories, continued

Specification	Unit	EU1S-SWD-PF1-2	SWD4-RC5-10	SWD4-ACAP-10	SWD4-SML8-12	SWD4-SFL8-12	SWD4-MNT-VER	SWD4-MNT-DIN
Climatic Environmental Conditions								
Ambient temperature	Degrees C	–25 to +70	–25 to +70	–25 to +70	–25 to +70	–25 to +70	–25 to +70	–25 to +70
Storage temperature	Degrees C	–40 to +70	–40 to +70	–40 to +70	–40 to +70	–40 to +70	–40 to +70	–40 to +70
Humidity	% RH	95 at 55 °C / 5–95% condensation permitted						
SmartWire-DT Network								
Stations type		N/A	N/A	N/A	N/A	N/A	—	—
Baud rate setting		—	—	—	—	—	—	—
Maximum	bit / sec	—	—	—	—	—	—	—
SW-DT Status LED		—	—	—	—	—	—	—
Connectors, (IEC-61076-2-101)	M12 A Coding	—	—	—	—	—	—	—
SW-DT network input connector		1x M12-M / 5-pole	1x M12-M / 5-pole	1x M12-M / 5-pole	1x M12-M / 5-pole	1x Lumberg (LT-307.597.1)	—	—
Pin 1		N/C	24 Vdc	24 Vdc	24 Vdc	15 V	—	—
Pin 2		Data A	Data A	N/C	Data A	SEL	—	—
Pin 3		GND	GND	GND	GND	GND	—	—
Pin 4		Data B	Data B	N/C	Data B	Data A	—	—
Pin 5		SEL (IN)	SEL (IN)	N/C	SEL (IN)	Data B	—	—
Pin 6		—	—	—	—	GND	—	—
Pin 7		—	—	—	—	0 V	—	—
Pin 8		—	—	—	—	24 Vdc	—	—
SW-DT network output connector		1x M12-F / 5-pole	—	—	1x Lumberg (LT-307.597.1)	1x M12-F / 5-pole	—	—
Pin 1		24 Vdc	—	—	15 V	24 Vdc	—	—
Pin 2		Data A	—	—	SEL	Data A	—	—
Pin 3		GND	—	—	GND	GND	—	—
Pin 4		Data B	—	—	Data A	Data B	—	—
Pin 5		SEL (OUT)	—	—	Data B	SEL (OUT)	—	—
Pin 6		—	—	—	GND	—	—	—
Pin 7		—	—	—	0V	—	—	—
Pin 8		—	—	—	24 Vdc	—	—	—
SW-DT network branch connector		—	—	—	—	—	—	—
Pin 1		—	—	—	—	—	—	—
Pin 2		—	—	—	—	—	—	—
Pin 3		—	—	—	—	—	—	—
Pin 4		—	—	—	—	—	—	—
Pin 5		—	—	—	—	—	—	—
Pin 6		—	—	—	—	—	—	—
Pin 7		—	—	—	—	—	—	—
Pin 8		—	—	—	—	—	—	—
24 Vdc Supply (SWD4-R)								
Rated operational voltage	V/U_e	—	24 V –15% +20%	—	—	—	—	—
Residual ripple on the input voltage	%	—	≤5	—	—	—	—	—
Reverse Polarity		—	Yes	—	—	—	—	—
Rated supply current	mA	—	12	—	—	—	—	—
24 Vdc Supply (PF1-2)								
Rated operational voltage	V/U_e	24 V –15% +20%	—	—	—	—	—	—
Residual ripple on the input voltage	%	≤5	—	—	—	—	—	—
Rated supply current	A	4	—	—	—	—	—	—
Connectors, (IEC-61076-2-101)	M12 A Coding	—	—	—	—	—	—	—

SWD Accessories, continued

Specification	Unit	EU1S-SWD-PF1-2	SWD4-RC5-10	SWD4-ACAP-10	SWD4-SML8-12	SWD4-SFL8-12	SWD4-MNT-VER	SWD4-MNT-DIN
24 Vdc Supply (PF1-2), continued								
PF1 24 Vdc input connector		1x M12-M / 5-pole	—	—	—	—	—	—
Pin 1		24 Vdc	—	—	—	—	—	—
Pin 2		N/C	—	—	—	—	—	—
Pin 3		GND	—	—	—	—	—	—
Pin 4		N/C	—	—	—	—	—	—
Pin 5		N/C	—	—	—	—	—	—
Power indicator LED		Green (625 nm)	—	—	—	—	—	—
Active Cap (-ACAP-10)								
Rated operational voltage	V/U_e	—	—	24 V –15% +20%	—	—	—	—
Reverse Polarity		—	—	N/A	—	—	—	—
Rated supply current	mA	—	—	≥1 mA	—	—	—	—
Connectors, (IEC-61076-2-101)	M12 A Coding	—	—	—	—	—	—	—
Active Cap M12-M		—	—	1x M12-M / 2 Pole	—	—	—	—
Pin 1		—	—	24 Vdc	—	—	—	—
Pin 2		—	—	N/C	—	—	—	—
Pin 3		—	—	GND	—	—	—	—
Pin 4		—	—	N/C	—	—	—	—
Pin 5		—	—	N/C	—	—	—	—
Parameter		—	—		—	—	—	—
Diagnostic per M12 I/O connector		—	—	ON/OFF	—	—	—	—
15 Vdc Supply (to Flat Cable)								
Rated operational voltage	V/U_e	—	—	—	14,5V +/- 3%	—	—	—
Residual ripple on the input voltage	%	—	—	—	≤5	—	—	—
Short Circuit Protection		—	—	—	Yes	—	—	—
Output Power	mA	—	—	—	120	—	—	—
24 Vdc Out (Push In Terminals)								
Rated operational voltage	V/U_e	—	—	—	24 V	24 V	—	—
Short circuit protection		—	—	—	No	No	—	—
Connectors		—	—	—			—	—
24 V Out 1		—	—	—	LSF-SMT3.5	LSF-SMT3.5	—	—
Pin 1		—	—	—	24 Vdc	24 Vdc	—	—
Pin 2		—	—	—	0 V	0 V	—	—
24 V Out 2		—	—	—	LSF-SMT3.5	—	—	—
Pin 1		—	—	—	24 Vdc	—	—	—
Pin 2		—	—	—	0 V	—	—	—
24 Vdc In (Push In Terminals)								
Rated operational voltage	V/U_e	—	—	—	—	24 Vdc –15%/+20%	—	—
Residual ripple on the input voltage	%	—	—	—	—	≤5	—	—
Reverse polarity protection		—	—	—	—	Yes	—	—
Rated current	A	—	—	—	—	4	—	—
Short Circuit Protection		—	—	—	—	No	—	—
Connectors		—	—	—	—	—	—	—
24 V In 1		—	—	—	—	LSF-SMT3.5	—	—
Pin 1		—	—	—	—	24 Vdc	—	—
Pin 2		—	—	—	—	0 V	—	—

Contactor Modules

Description	Unit	DIL-SWD-32-001	DIL-SWD-32-002	PKE-SWD-32
General				
Standards		IEC/EN 61131-2 EN 50178 IEC/EN 60947	IEC/EN 61131-2 EN 50178 IEC/EN 60947	IEC/EN 61131-2 EN 50178 IEC/EN 60947
Dimensions (W x H x D)	in (mm)	1.77 x 1.50 x 3.0 (45 x 38 x 76)	1.77 x 1.50 x 3.0 (45 x 38 x 76)	1.77 x 1.50 x 3.0 (45 x 38 x 76)
Weight	lbs (kg)	0.9 (0.04)	0.9 (0.04)	0.9 (0.04)
Mounting		on XTCE007–XTCE032	on XTCE007–XTCE032	—
Mounting position		as XTCE007–XTCE032	as XTCE007–XTCE032	—
Ambient Conditions, Mechanical				
Degree of protection (IEC/EN 60529)		IP20	IP20	—
Vibrations (IEC/EN 61131-2:2008)				
Constant amplitude 3.5 mm	Hz	5–8.4	5–8.4	5–8.4
Constant acceleration 1 g	Hz	8.4–150	8.4–150	8.4–150
Mechanical shock resistance (IEC/EN 60068-2-27) semi-sinusoidal 15 g/11 ms	Impacts	9	9	9
Drop to IEC/EN 60068-2-31 (drop height)	in (mm)	1.97 (50)	1.97 (50)	1.97 (50)
Free fall, packaged (IEC/EN 60068-2-32)	ft (m)	1.0 (0.3)	1.0 (0.3)	1.0 (0.3)
Electromagnetic Compatibility (EMC)				
Overvoltage category		II	II	II
Pollution degree		2	2	2
Electrostatic discharge (IEC/EN 61131-2:2008)				
Air discharge (Level 3)	kV	8	8	8
Contact discharge (Level 2)	kV	4	4	4
Electromagnetic fields (IEC/EN 61131-2:2008)				
80–1000 MHz	V/m	10	10	10
1.4–2 GHz	V/m	3	3	3
2–2.7 GHz	V/m	1	1	1
Radio interference suppression (SmartWire-DT)		EN 55011 Class A	EN 55011 Class A	EN 55011 Class A
Burst (IEC/EN 61131-2:2008, Level 3)				
CAN/DP bus cable	kV	1	1	1
SmartWire-DT cables	kV	1	1	1
Radiated RFI (IEC/EN 61131-2:2008, Level 3)	V	10	10	10
Climatic Environmental Conditions				
Operating ambient temperature (IEC 60068-2)	°F (°C)	–13° to 140° (–25° to 60°)	–13° to 140° (–25° to 60°)	–13° to 140° (–25° to 60°)
Condensation		Prevent with suitable measures	Prevent with suitable measures	Prevent with suitable measures
Storage	°F (°C)	–22° to 158° (–30° to 70°)	–22° to 158° (–30° to 70°)	–22° to 158° (–30° to 70°)
Relative humidity, noncondensing (IEC/EN 60068-2-30)	%	5–95	5–95	5–95

Contactor Modules, continued

Description	Unit	DIL-SWD-32-001	DIL-SWD-32-002	PKE-SWD-32
SmartWire-DT Network				
Station type		SmartWire-DT station (mode)	SmartWire-DT station (mode)	SmartWire-DT (slave)
Address allocation		Automatic	Automatic	Automatic
SmartWire-DT status LED		Green/orange	Green/orange	Green/orange
Connections				
Plug		8-pole	8-pole	8-pole
Plug connectors		External device plug SWD4-8SF2-5	External device plug SWD4-8SF2-5	External device plug SWD4-8SF2-5
Current consumption (15 V SWD supply)		40 mA	40 mA	58 mA
Mode Parameter				
Manual/automatic mode		No	Yes	Yes
Setting		—	Rotary switch	Rotary switch
Connection Auxiliary Contact				
Number		2	2	—
Rated voltage (U_e) ①	Vdc	15	15	—
Input current at 1 signal, typical	mA	3	3	—
Potential isolation		No	No	—
Cable length	ft (m)	≤9.2 (2.8)	≤9.2 (2.8)	≤9.2 (2.8)
Connection type		Push in terminals	Push in terminals	Push in terminals
Terminal Capacities				
Solid	mm^2	0.2–1.5 (AWG 24–16)	0.2–1.5 (AWG 24–16)	0.2–1.5 (AWG 24–16)
Flexible with ferrule ②	mm^2	0.25–1.5	0.25–1.5	0.25–1.5

Notes

① Own supply.
② Minimum length: 8 mm.

Pilot Device Modules

Description	Unit	M22-SWD-K11	M22-SWD-KC11	M22-SWD-LED-_	M22-SWD-LEDC-_	M22-SWD-K11-LED_
General						
Standards		IEC/EN 61131-2 EN 50178	IEC/EN 61131-2 EN 50178	IEC/EN 61131-2 EN 50178	IEC/EN 61131-2 EN 50178	IEC/EN 61131-2 EN 50178
Dimensions (W x H x D)	in (mm)	0.47 x 1.65 x 1.54 (12 x 42 x 39)	0.47 x 1.77x 1.46 (12 x 45 x 37)	0.39 x 1.65 x 1.77 (10 x 42 x 45)	0.39 x 1.77 x 1.65 (10 x 45 x 42)	0.47 x 1.65 x 1.77 (12 x 42 x 45)
Weight	lbs (g)	0.022 (10)	0.022 (10)	0.022 (10)	0.022 (10)	0.022 (10)
Mounting position		As required	As required	As required	As required	As required
Ambient Conditions, Mechanical						
Degree of protection (IEC/EN 60529)		IP20	IP20	IP20	IP20	IP20
Vibrations (IEC/EN 61131-2:2008)						
Constant amplitude 3.5 mm	Hz	5–8.4	5–8.4	5–8.4	5–8.4	5–8.4
Constant acceleration 1 g	Hz	8.4–150	8.4–150	8.4–150	8.4–150	8.4–150
Mechanical shock resistance (IEC/EN 60068-2-27) semi-sinusoidal 15 g/11 ms	Impacts	9	9	9	9	9
Drop to IEC/EN 60068-2-31 (drop height)	in (mm)	1.97 (50)	1.97 (50)	1.97 (50)	1.97 (50)	1.97 (50)
Free fall, packaged (IEC/EN 60068-2-32)	ft (m)	1.0 (0.3)	1.0 (0.3)	1.0 (0.3)	1.0 (0.3)	1.0 (0.3)
Electromagnetic Compatibility (EMC)						
Overvoltage category		Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Pollution degree		2	2	2	2	2
Electrostatic discharge (IEC/EN 61131-2:2008)						
Air discharge (Level 3)	kV	8	8	8	8	8
Contact discharge (Level 2)	kV	4	4	4	4	4
Electromagnetic fields (IEC/EN 61131-2:2008)						
80–1000 MHz	V/m	10	10	10	10	10
1.4–2 GHz	V/m	3	3	3	3	3
2–2.7 GHz	V/m	1	1	1	1	1
Radio interference suppression (SmartWire-DT)		EN 55011 Class A	EN 55011 Class A	EN 55011 Class A	EN 55011 Class A	EN 55011 Class A
Burst (IEC/EN 61131-2:2008, Level 3)						
Supply cables	kV	2	2	2	2	2
SmartWire-DT cables	kV	1	1	1	1	1
Radiated RFI (IEC/EN 61131-2:2008, Level 3)	V	10	10	10	10	10
Climatic Environmental Conditions						
Operating ambient temperature (IEC 60068-2)	°F (°C)	–22° to 131° (–30° to 55°)	–22° to 131° (–30° to 55°)	–22° to 131° (–30° to 55°)	–22° to 131° (–30° to 55°)	–22° to 131° (–30° to 55°)
Condensation		Prevent with suitable measures				
Storage	°F (°C)	–40° to 176° (–40° to 80°)	–40° to 176° (–40° to 80°)	–40° to 176° (–40° to 80°)	–40° to 176° (–40° to 80°)	–40° to 176° (–40° to 80°)
Relative humidity, noncondensing (IEC/EN 60068-2-30)	%	9–95	9–95	9–95	9–95	9–95
SmartWire-DT Network						
Station type		SmartWire-DT station (node)				
Address allocation		Automatic	Automatic	Automatic	Automatic	Automatic
SmartWire-DT status LED		Green	Green	Green	Green	Green
Connections						
Plug		8-pole	8-pole	8-pole	8-pole	8-pole
Plug connectors		SWD4-8SF2-5	M22-SWD-I_LP	SWD4-8SF2-5	M22-SWD-I_LP	SWD4-8SF2-5
Number of insertion cycles		≥50	≥50	≥50	≥50	≥50
Current consumption (15 V SWD supply)		10 mA	10 mA	22 mA	22 mA	22 mA
Function Element						
Contacts		1 changeover contact	1 changeover contact	—	—	1 changeover contact
Lifespan mechanical/electrical (operations)		1×10^6	1×10^6	—	—	1×10^6
LED display		No	No	Yes	Yes	Yes
Diagnostics		Yes	Yes	No	No	Yes
Mounting		Front mount	Base mount	Front mount	Base mount	Front mount

Pilot Device Modules, continued

Description	Unit	M22-SWD-K11LEDC-_	M22-SWD-K22	M22-SWD-KC22	M22-SWD-K22-LED_	M22-SWD-K22LEDC-_
General						
Standards		IEC/EN 61131-2 EN 50178	IEC/EN 61131-2 EN 50178	IEC/EN 61131-2 EN 50178	IEC/EN 61131-2 EN 50178	IEC/EN 61131-2 EN 50178
Dimensions (W x H x D)	in (mm)	0.47 x 1.77 x 1.65 (12 x 45 x 42)	0.67 x 1.65 x 1.54 (17 x 42 x 39)	0.67 x 1.77 x 1.46 (17 x 45 x 37)	0.67 x 1.65 x 1.77 (17 x 42 x 45)	0.67 x 1.77 x 1.65 (17 x 45 x 42)
Weight	lbs (g)	0.022 (10)	0.030 (14)	0.030 (14)	0.030 (14)	0.030 (14)
Mounting position		As required	As required	As required	As required	As required
Ambient Conditions, Mechanical						
Degree of protection (IEC/EN 60529)		IP20	IP20	IP20	IP20	IP20
Vibrations (IEC/EN 61131-2:2008)						
Constant amplitude 3.5 mm	Hz	5–8.4	5–8.4	5–8.4	5–8.4	5–8.4
Constant acceleration 1 g	Hz	8.4–150	8.4–150	8.4–150	8.4–150	8.4–150
Mechanical shock resistance (IEC/EN 60068-2-27) semi-sinusoidal 15 g/11 ms	Impacts	9	9	9	9	9
Drop to IEC/EN 60068-2-31 (drop height)	in (mm)	1.97 (50)	1.97 (50)	1.97 (50)	1.97 (50)	1.97 (50)
Free fall, packaged (IEC/EN 60068-2-32)	ft (m)	1.0 (0.3)	1.0 (0.3)	1.0 (0.3)	1.0 (0.3)	1.0 (0.3)
Electromagnetic Compatibility (EMC)						
Overvoltage category		Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Pollution degree		2	2	2	2	2
Electrostatic discharge (IEC/EN 61131-2:2008)						
Air discharge (Level 3)	kV	8	8	8	8	8
Contact discharge (Level 2)	kV	4	4	4	4	4
Electromagnetic fields (IEC/EN 61131-2:2008)						
80–1000 MHz	V/m	10	10	10	10	10
1.4–2 GHz	V/m	3	3	3	3	3
2–2.7 GHz	V/m	1	1	1	1	1
Radio interference suppression (SmartWire-DT)		EN 55011 Class A	EN 55011 Class A	EN 55011 Class A	EN 55011 Class A	EN 55011 Class A
Burst (IEC/EN 61131-2:2008, Level 3)						
Supply cables	kV	2	2	2	2	2
SmartWire-DT cables	kV	1	1	1	1	1
Radiated RFI (IEC/EN 61131-2:2008, Level 3)	V	10	10	10	10	10
Climatic Environmental Conditions						
Operating ambient temperature (IEC 60068-2)	° F (°C)	–22° to 131° (–30° to 55°)	–22° to 131° (–30° to 55°)	–22° to 131° (–30° to 55°)	–22° to 131° (–30° to 55°)	–22° to 131° (–30° to 55°)
Condensation		Prevent with suitable measures				
Storage	° F (°C)	–40° to 176° (–40° to 80°)	–40° to 176° (–40° to 80°)	–40° to 176° (–40° to 80°)	–40° to 176° (–40° to 80°)	–40° to 176° (–40° to 80°)
Relative humidity, noncondensing (IEC/EN 60068-2-30)	%	9–95	5–95	5–95	5–95	5–95
SmartWire-DT Network						
Station type		SmartWire-DT station (node)				
Address allocation		Automatic	Automatic	Automatic	Automatic	Automatic
SmartWire-DT status LED		Green	Green	Green	Green	Green
Connections						
Plug		8-pole	8-pole	8-pole	8-pole	8-pole
Plug connectors		M22-SWD-I_LP	SWD4-8SF2-5	M22-SWD-I_LP	SWD4-8SF2-5	M22-SWD-I_LP
Number of insertion cycles		≥50	≥50	≥50	≥50	≥50
Current consumption (15 V SWD supply)		22 mA	10 mA	10 mA	22 mA	22 mA
Function Element						
Contacts		1 contact	2 contacts	2 contacts	2 contacts	2 contacts
Lifespan mechanical/electrical (operations)		1×10^6	1×10^6	1×10^6	1×10^6	1×10^6
LED display		Yes	No	No	Yes	Yes
Diagnostics		Yes	Yes	Yes	Yes	Yes
Mounting		Base mount	Front mount	Base mount	Front mount	Base mount

Stacklight Modules—SL4/SL7 Series

SL4/SL7 General Specifications

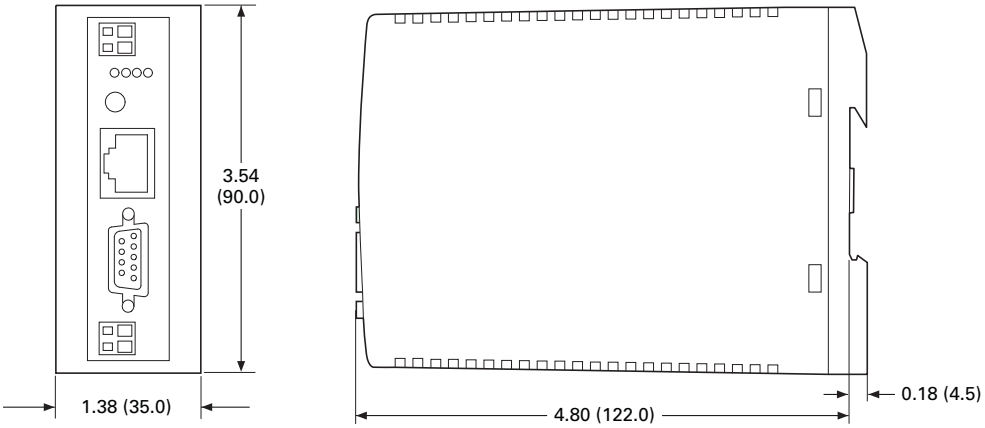
Description	Specification
Standards	IEC/EN 60947-5-1
Lens color	Blue, green, red, clear, yellow, amber
Number of signal elements	Max. 5 with standard base Max. 10 with base for mounting on both sides
Mechanical Ratings	
Shock (IEC 68-2-27)	11 ms, 15g
Vibration (IEC 68-2-6)	20 sweeps 10–150 Hz, 1g
Climate Conditions	
Climatic proofing	Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60069-2-30
Operating temperature	–22° to +140°F (–30° to +60°C)
Storage temperature	–22° to +185°F (–30° to +85°C)
Environmental Ratings	
IEC degree of protection	UL Type 4/4X/13, IP66 IEC/EN 60529
Protection type UL	Type 4/4X/13
Materials	
Cover	Polycarbonate
Lenses	Polycarbonate
Stacklight base	Polycarbonate
Tubes	Aluminum
Terminal Capacity	
Solid or flexible conductor	0.13–2.5 mm^2
Flexible with ferrule with plastic collar	0.25–1.5 mm^2 AWG 24–AWG 14
Contacts	
Rated impulse withstand voltage (U_{imp})	4000 Vac
Rated insulation voltage (U_i)	250V
Overvoltage category/pollution degree	III/3

Dimensions

Approximate Dimensions in Inches (mm)

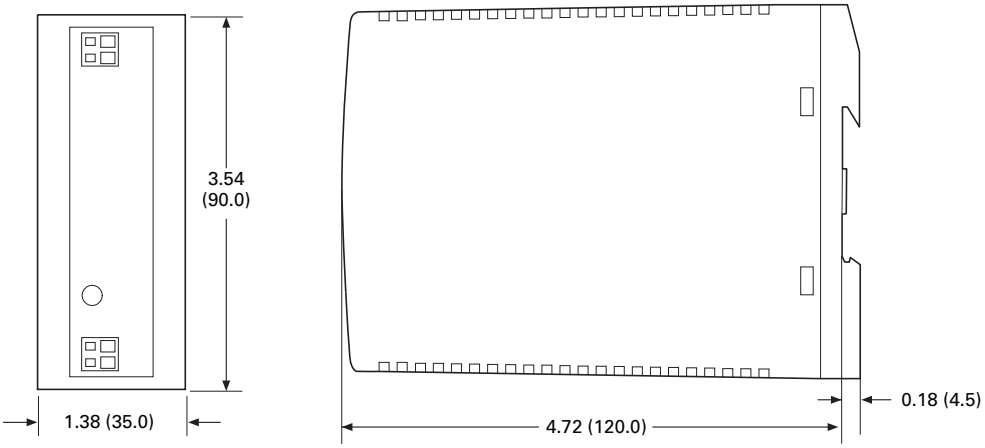
Gateways

EU5C-SWD_



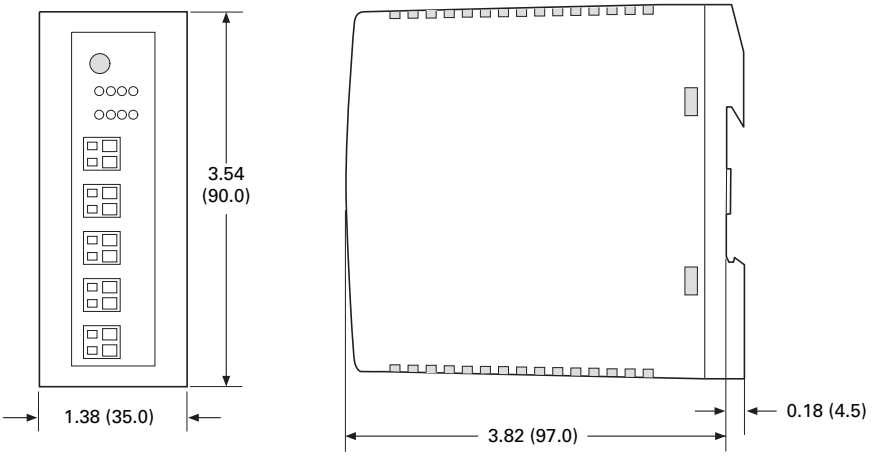
Powerfeed Modules

EU5C-SWD-PF_



I/O Modules

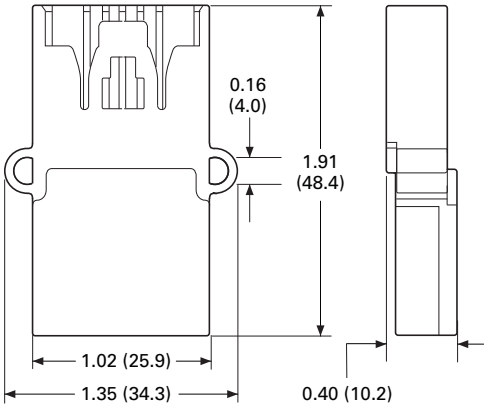
EU5E-SWD_



Approximate Dimensions in Inches (mm)

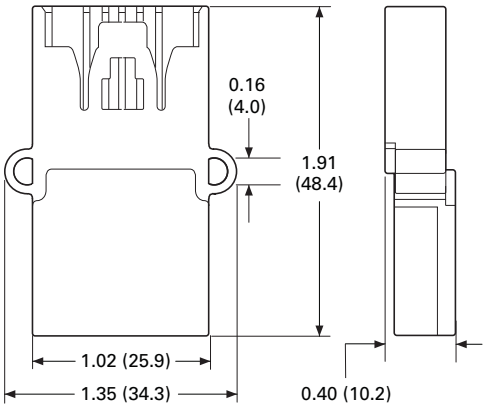
Terminating Resistor

SWD4-RC8-10



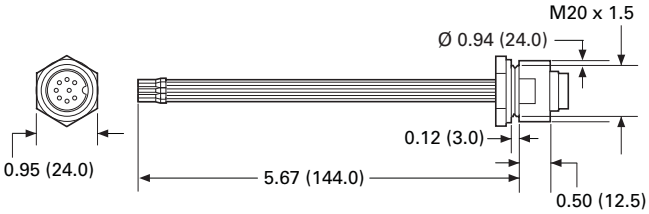
Coupling

SWD4-8SFF2-5



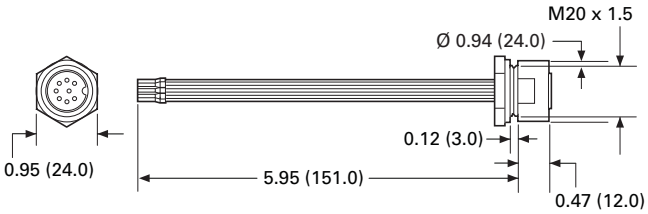
Enclosure Bushing Plug

SWD4-SM8-20



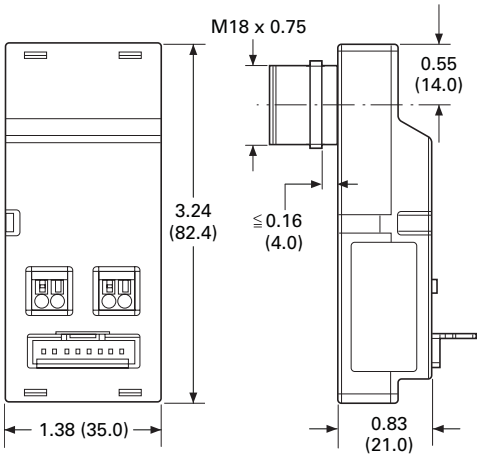
Enclosure Bushing Socket

SWD4-SF8-20



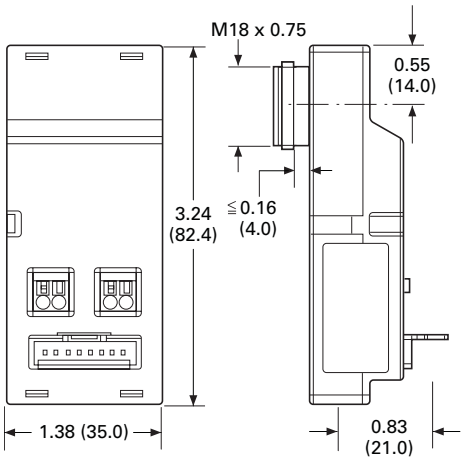
Cabinet Cable Adapter Plug

SWD4-SML8-20



Cabinet Cable Adapter Socket

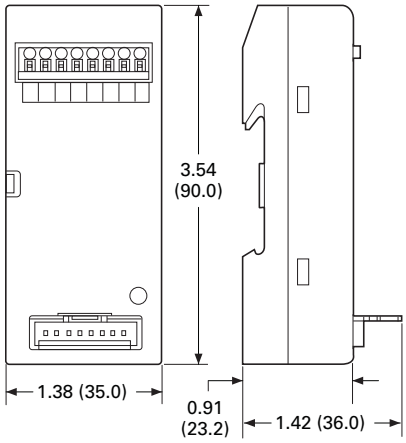
SWD4-SFL8-20



Approximate Dimensions in Inches (mm)

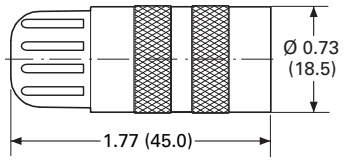
Panel Cable Adapter

SWD4-8FRF-10



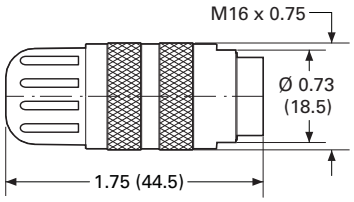
Round Cable Socket

SWD4-SF8-67



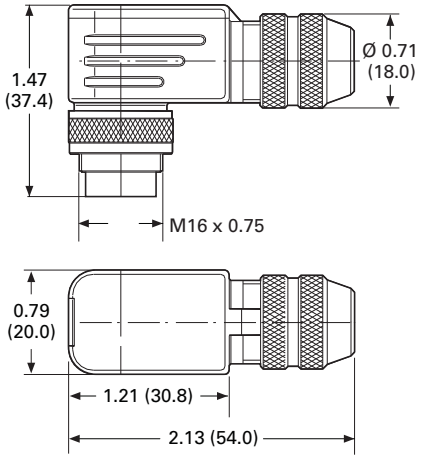
Round Cable Plug

SWD4-SM8-67



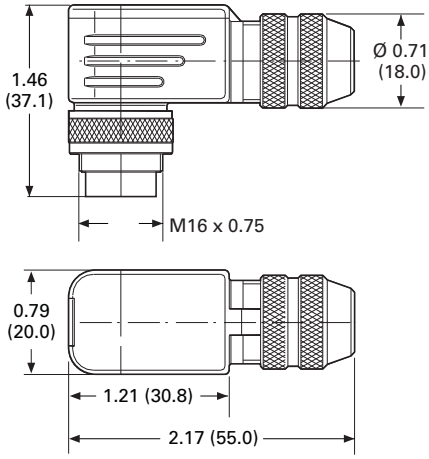
Right Angle Round Cable Socket

SWD4-SF8-67W



Right Angle Round Cable Plug

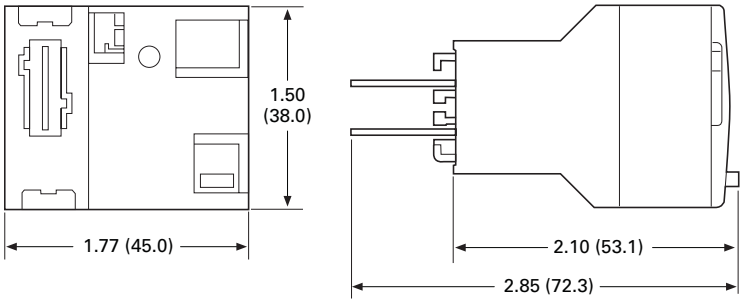
SWD4-SM8-67W



Approximate Dimensions in Inches (mm)

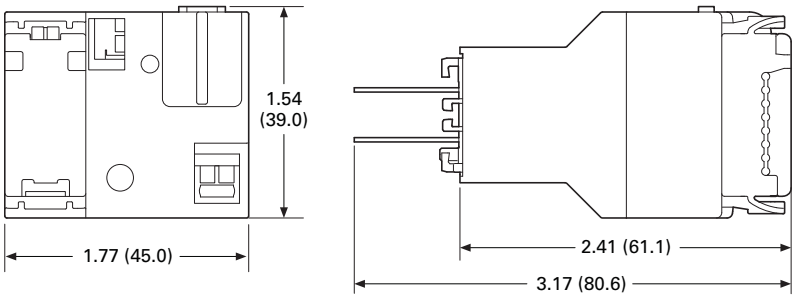
Contactor Modules

DIL-SWD-32-001 and DIL-SWD-32-002



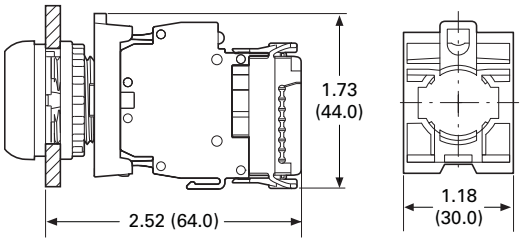
SmartWire-DT PKE Modules

PKE-SWD-32



Pilot Device Modules

M22-SWD-K_, M22-SWD-LED_

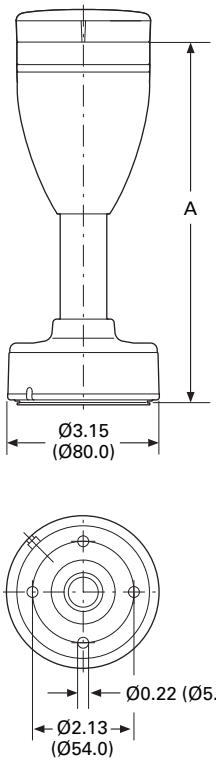


Approximate Dimensions in Inches (mm)

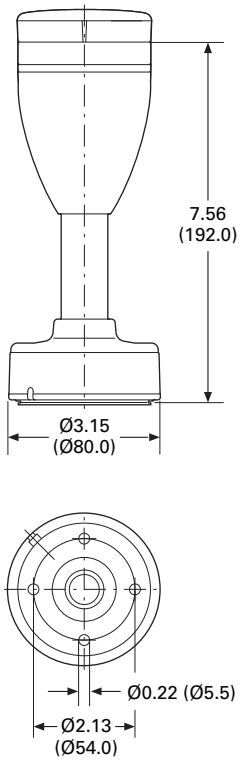
Stacklight Modules

SL7-SWD, SL4-SWD

SL7-FMS-...



SL7-SWD ①

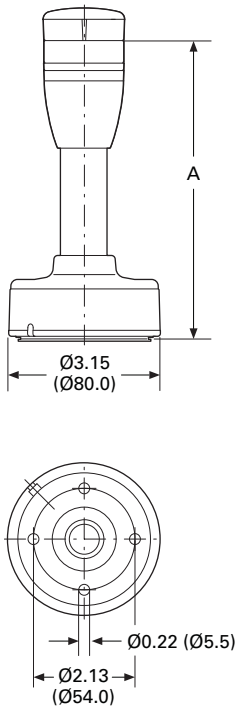


Catalog Number	A
SL7-FMS-100	7.55 (192.0)
SL7-FMS-250	13.46 (342.0)
SL7-FMS-400	19.37 (192.0)

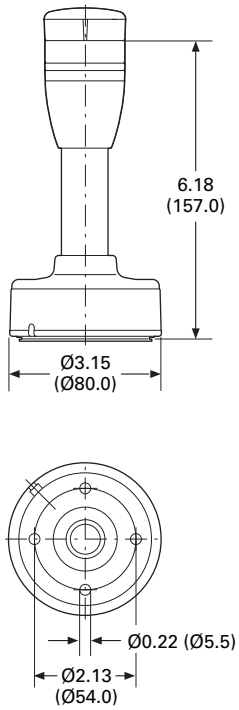
Note

① For connecting to SmartWire-DT.

SL4-FMS-...



SL4-SWD ①



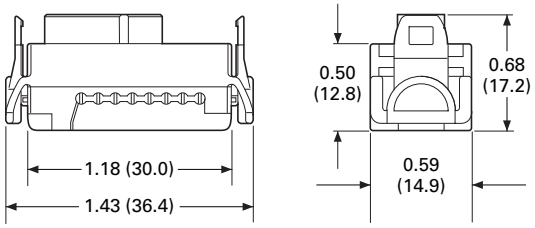
Catalog Number	A
SL4-FMS-100	6.18 (157.0)
SL4-FMS-250	12.09 (307.0)
SL4-FMS-400	17.99 (457.0)

Note

① For connecting to SmartWire-DT.

Device Plug

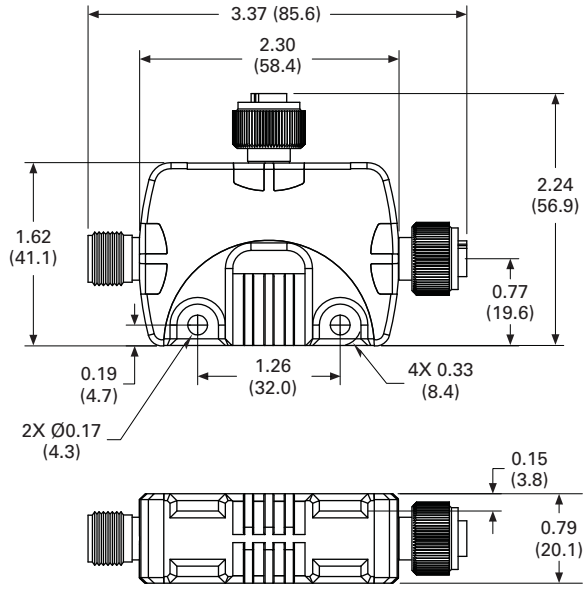
SWD4-8SF2-5



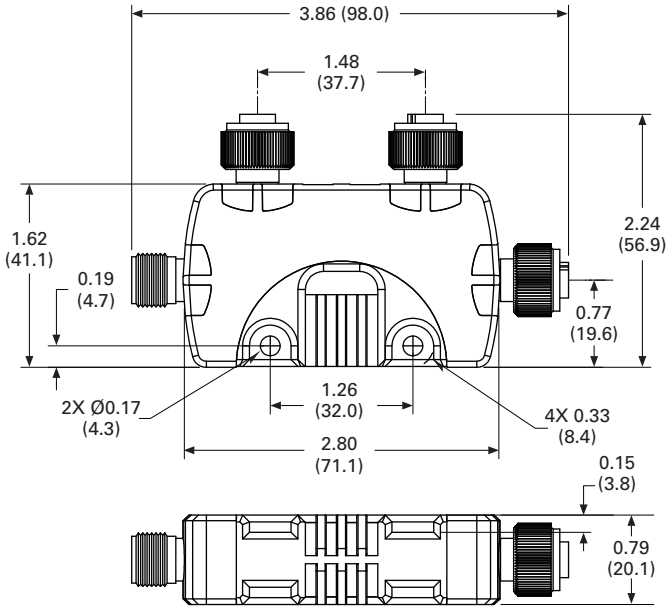
Approximate Dimensions in Inches (mm)

T Connectors

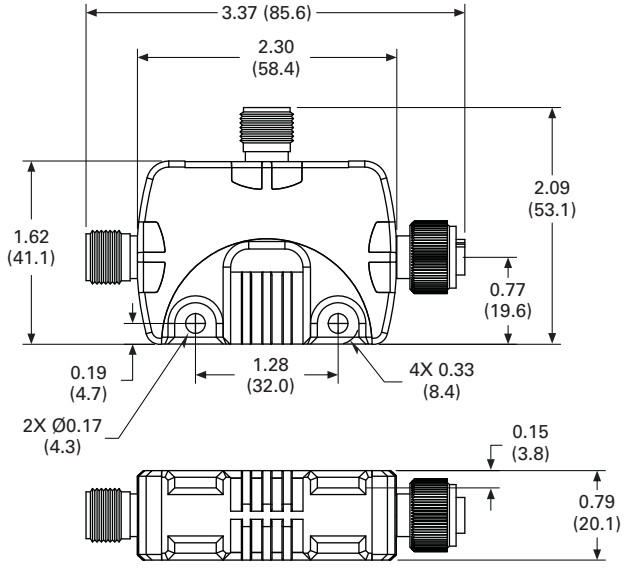
Single T Connector



Dual T Connector



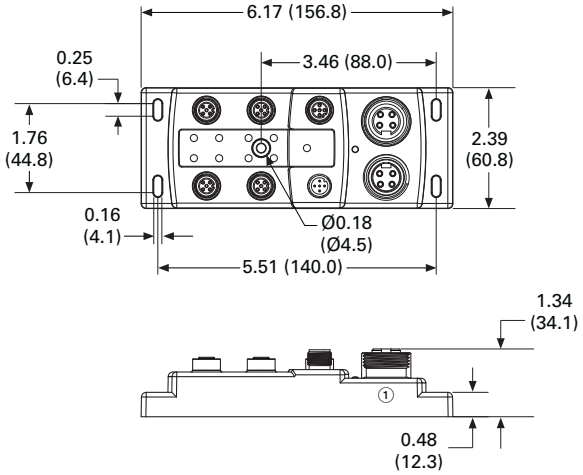
Powerfeed T Connector



Approximate Dimensions in Inches (mm)

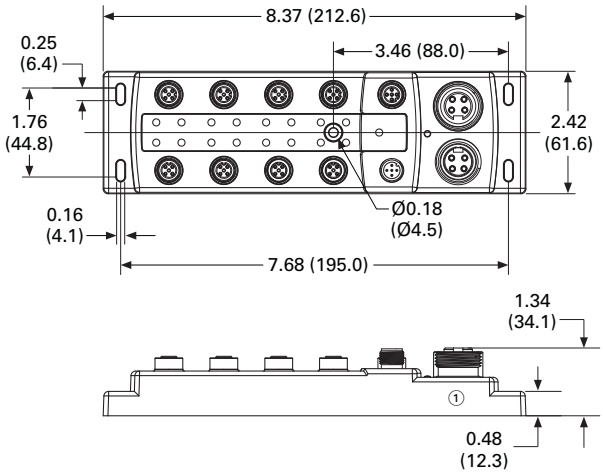
MultiBlock (Quad)

EU6E-SWD-_



MultiBlock (Octal)

EU8E-SWD-_



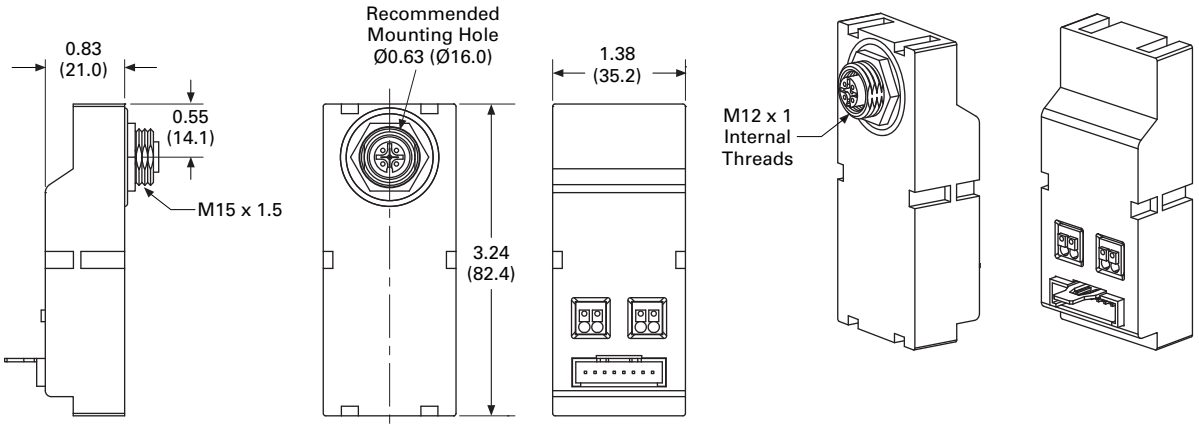
Note

① External power connections only present in EU6E/EU8E models ending in -1 or -2.

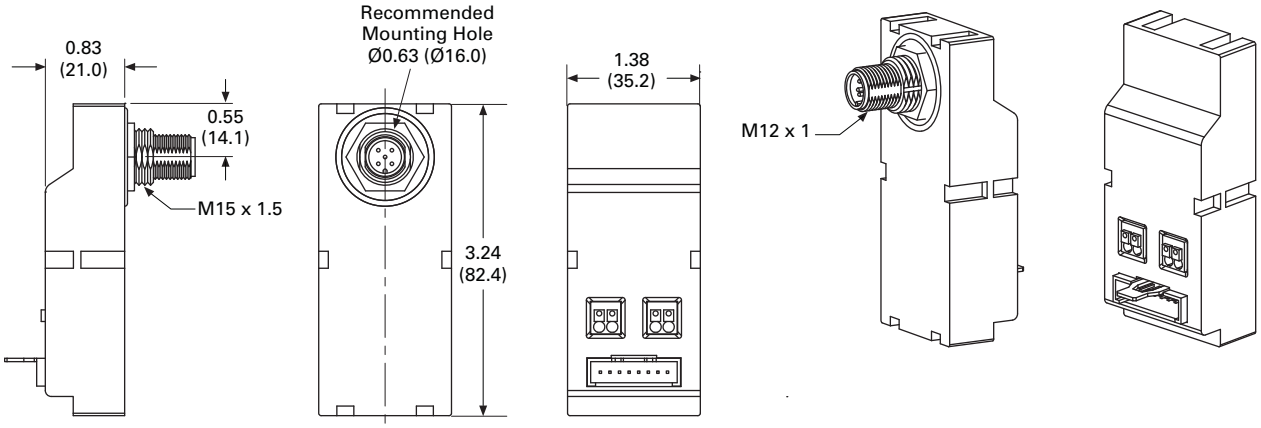
Approximate Dimensions in Inches (mm)

Panel Adapters

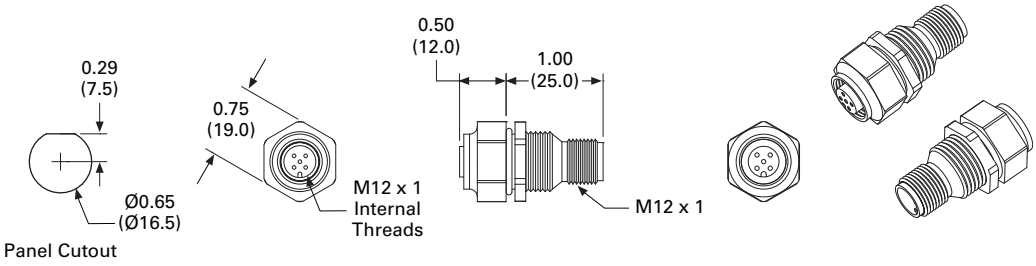
SWD4-SFL8-12



SWD4-SML8-12



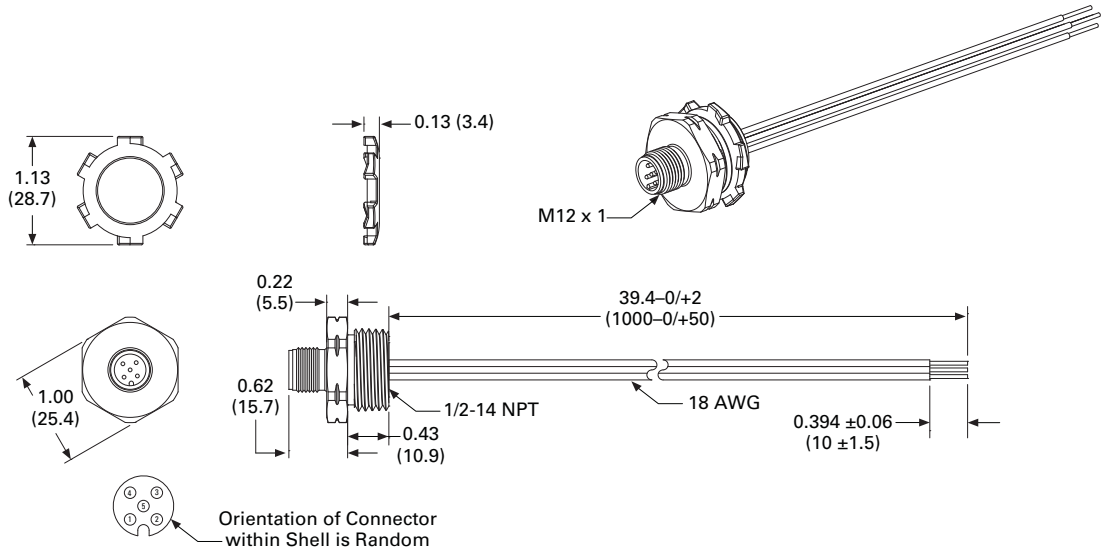
SWD4-SML5-12



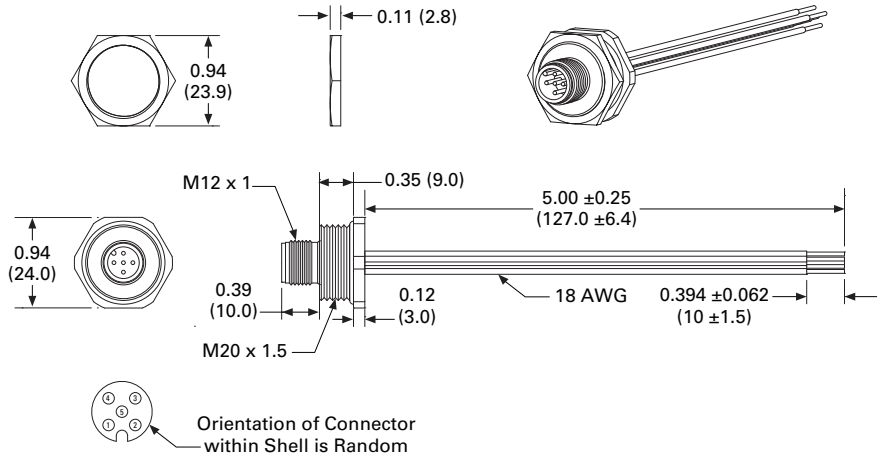
Approximate Dimensions in Inches (mm)

Receptacles

SWD4-PRM5-1-S

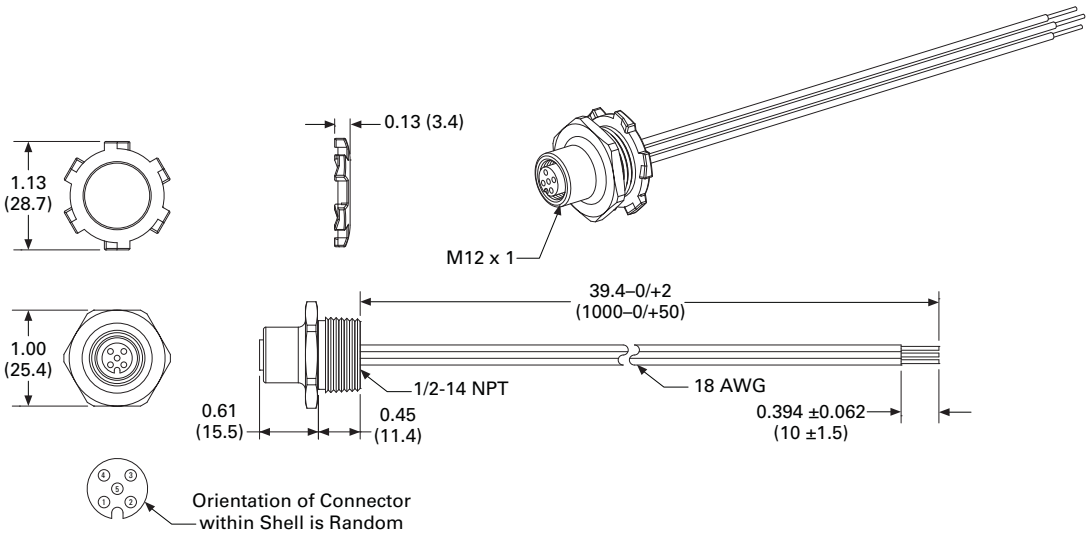


SWD4-PRM5-2-S

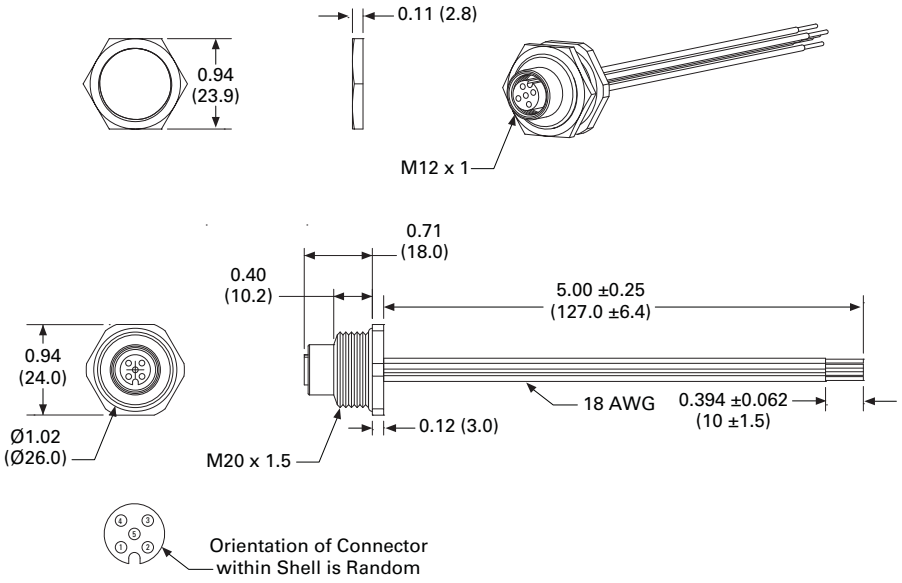


Approximate Dimensions in Inches (mm)

SWD4-PRF5-1-S



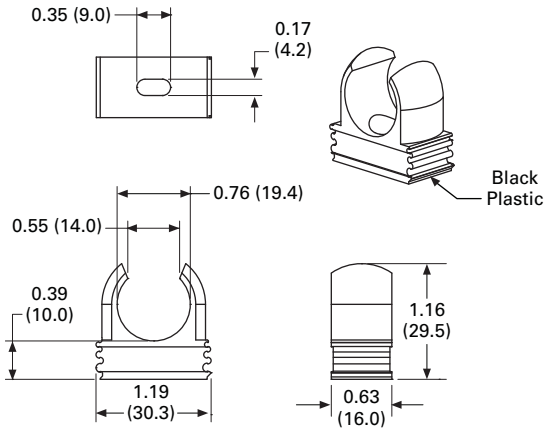
SWD4-PRF5-2-S



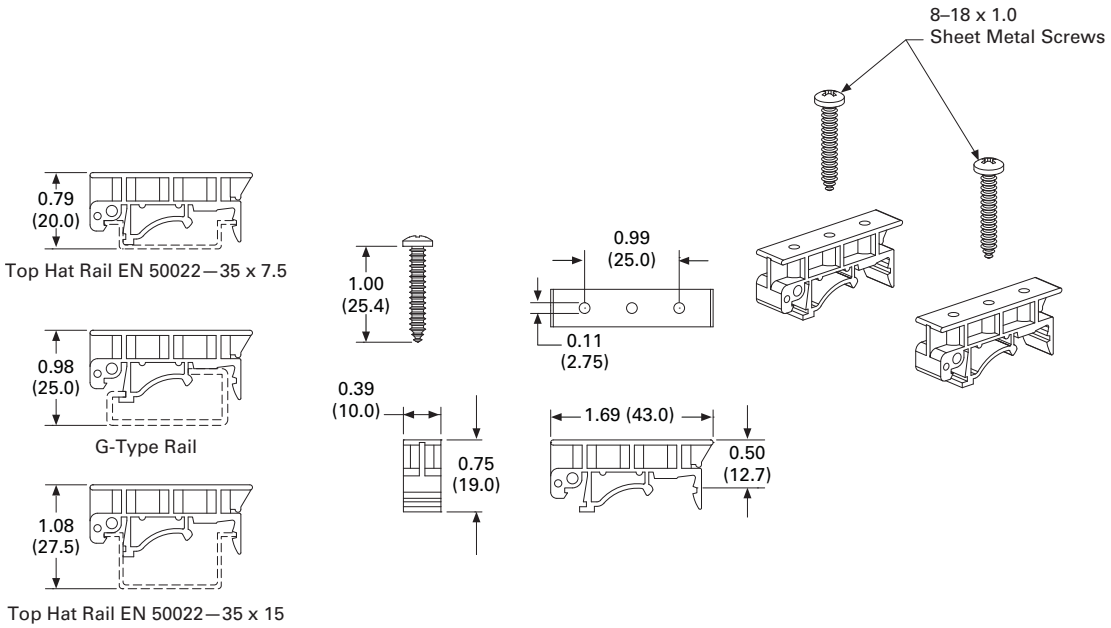
Approximate Dimensions in Inches (mm)

Mounting Brackets

SWD4-MNT-VER



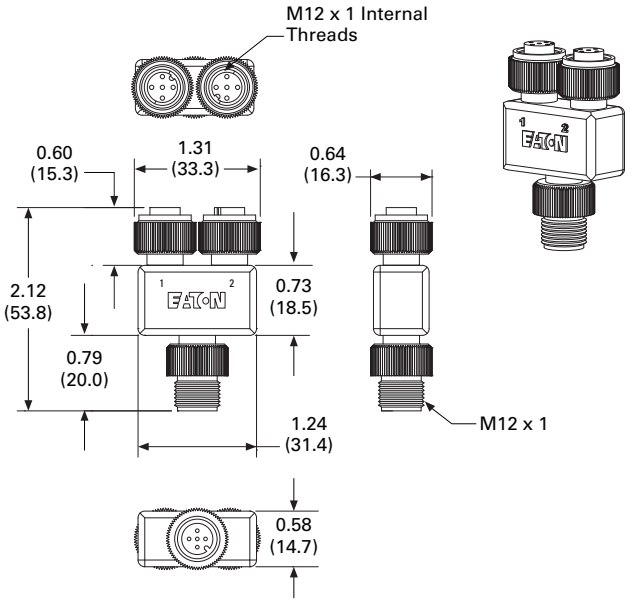
SWD4-MNT-DIN



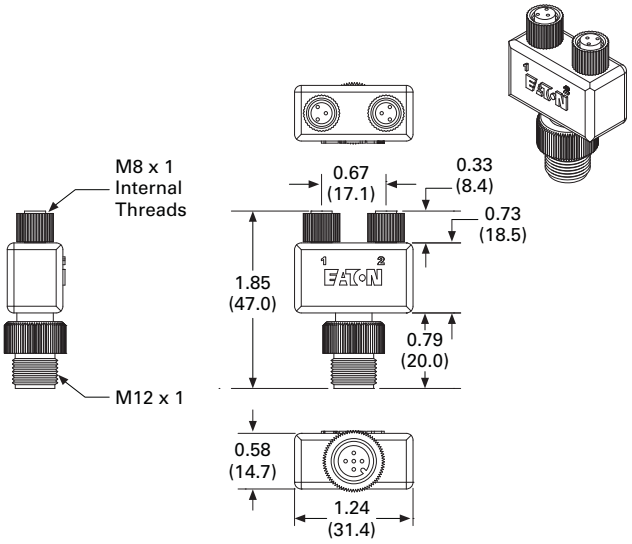
Approximate Dimensions in Inches (mm)

Splitters

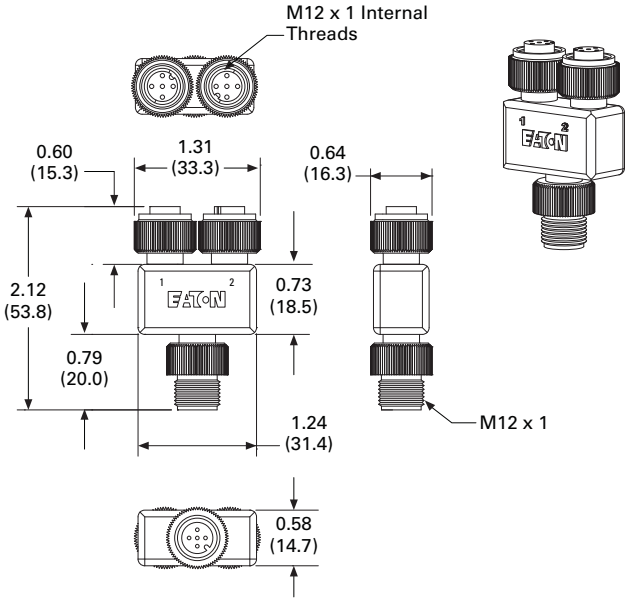
SWD4-SP-4122



SWD4-SP-3084

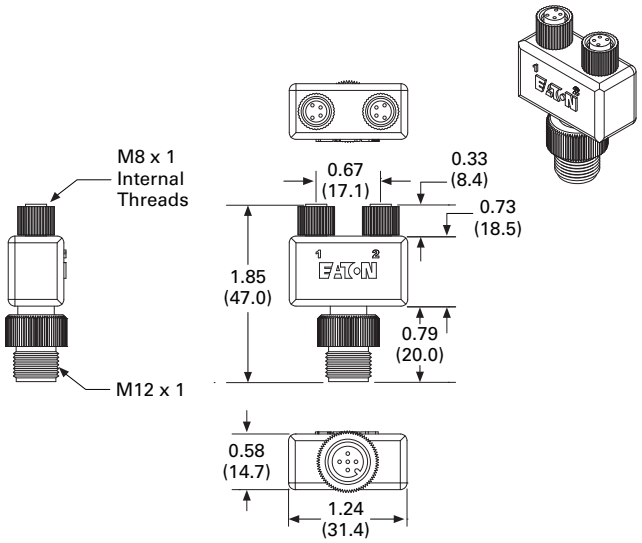


SWD4-SP-4124

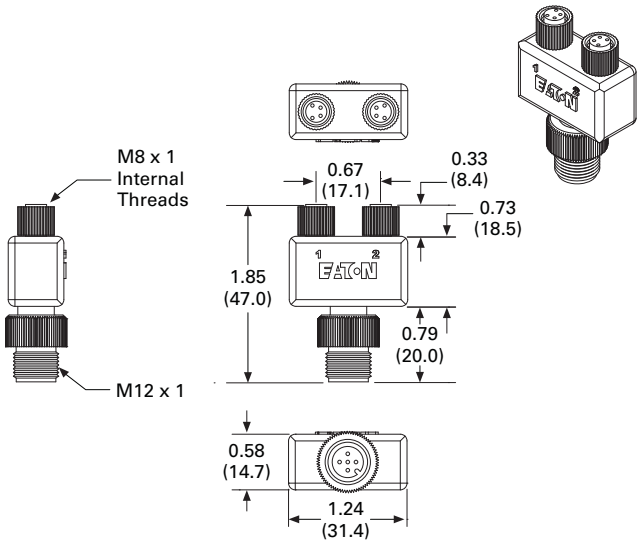


Approximate Dimensions in Inches (mm)

SWD4-SP-4082

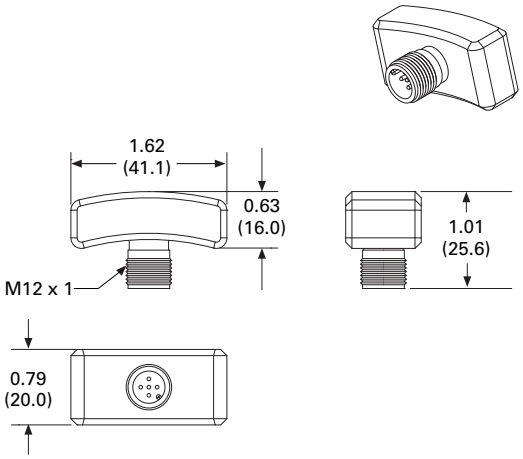


SWD4-SP-4084

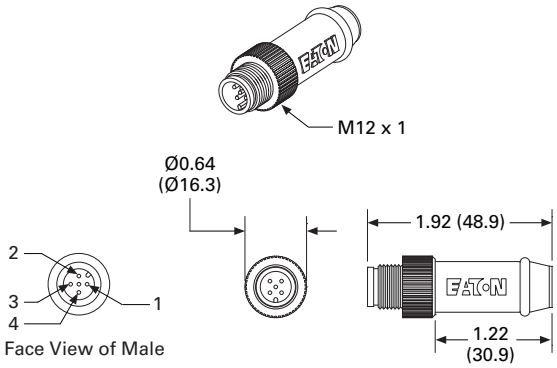


Other

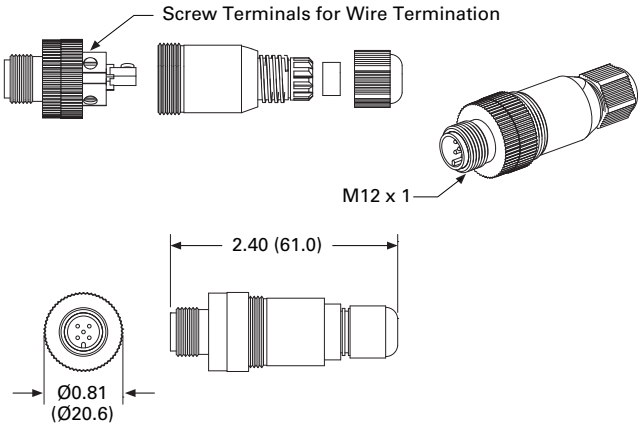
SWD4-RC5-10



SWD4-ACAP-10

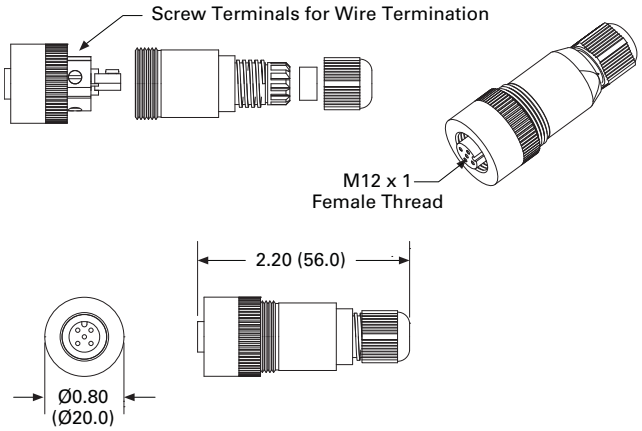


SWD4-SM5-67

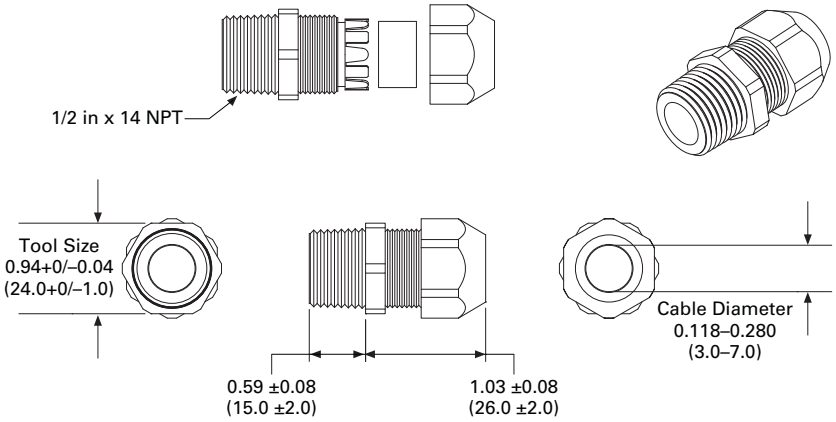


Approximate Dimensions in Inches (mm)

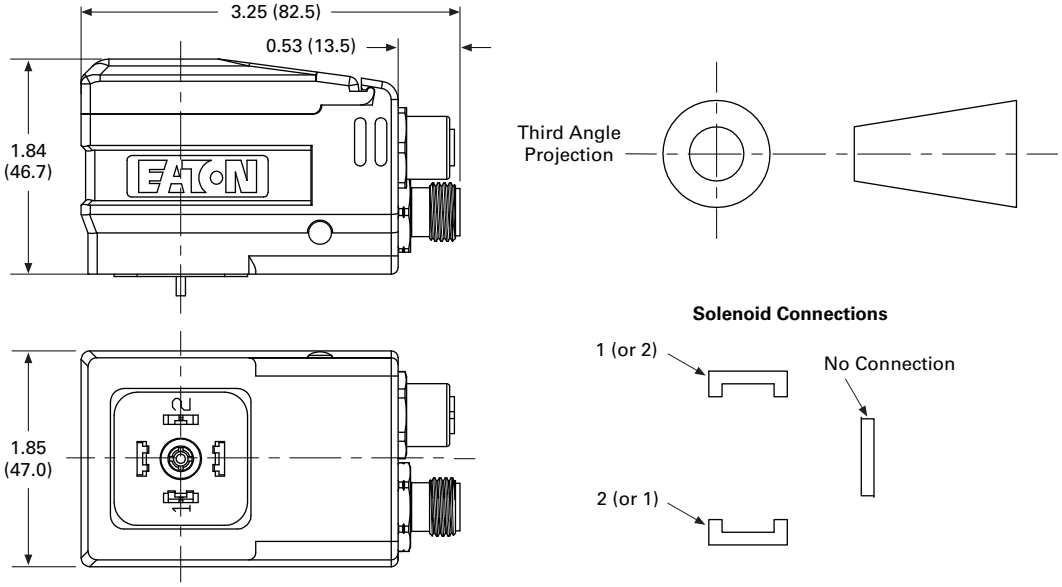
SWD4-SF5-67



V-12NPT



EU3E-SWD-X1H-1



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