Dupline® Plug & Play Master Module Interface for Mitsubishi PLC Type G 3496 0003

CARLO GAVAZZI

- Interface for Mitsubishi PLC with the function of a master
- Plug and play: Automatic communication with specific PLC/Controllers
- Built-in normal Dupline® Channel Generator
- 128 I/O's and DC power supply on 3 wires
- RS232/RS422/RS485 port for interfacing to control system
- Split-I/O mode selectable (128 inputs and 128 outputs)
- LED-indications for supply, Dupline® carrier and Com-port TX
- Galvanically isolated Com-port supplied by internal DC/DC converter

Product Description

G 3496 0003 is designed as a cost-effective solution for interfacing Dupline® I/O's to a Mitsubishi PLC. It performs three functions: Dupline® channel generator, power supply synchronization (enables 3-wire system with supply) and RS232/RS422/RS485 interface.

Ordering Key

G 3496 0003 700

Type: Dupline®
H4-Housing
Combined module
Interface type
DC supply

Type Selection

Supply	PLC Interface Conformance	Ordering no.
20-30 VDC	Mitsubishi FX-serie Mitsubishi AnS-serie with interface module	G 3496 0003 700

Input/Output Specifications

Power output	
Output voltage	20-30 VDC (pulsating)
Output current	< 3.0 A @ 50°C
Short circuit protection	4 A quick acting fuse
Output voltage drop	< 1.0 V

Dupline® carrier	
Output voltage	8.2 V (pulsating)
Current	< 60 mA
Short circuit protection	Yes
Scan time	
128 channels	132.2 ms
64 channels	69.8 ms

Communication port	
Standard	RS232/RS422/RS485
Split I/O mode	Yes, selectable
Normal Dupline mode	Yes, selectable
Connection	9 pole female Sub-D
Dielectric voltage	
Com-port Dupline®	1 kVAC (rms)
Protocol	Programming Port
Baud rate	9600
Data bits	7
Start bit	1
Stop bit	1
Parity	Even
Flow-control	None
Protocol	Dedicated Protocol
Baud rate	19200
Data bits	8
Start bit	1
Stop bit	1
Parity	None
Flow-control	None

Input/Output Specifications (Cont.)

Pin assignment	
2-wire RS 485	
S/R Data line + (B)	Pin 3
S/R Data line - (A)	Pin 8
GND	Pin 5
4-wire RS 485/RS 422	
R Data line + (B)	Pin 3
R Data line - (A)	Pin 8
S Data line + (B)	Pin 2
S Data line - (A)	Pin 7
Direction	Pin 4
	(Connect to GND pin 5 when using 4-wire communication)
RS 232	
TX	Pin 1
RX	Pin 9
GND	Pin 5

Supply Specifications

Power supply	Overvoltage cat. III (IEC 60664)
Operational voltage (V_{in})	20-30 VDC
Reverse polarity protection	None
Current consumption	< 150 mA + Power load
Power dissipation	< 5 W
Transient protection voltage	800 V
Dielectric voltage	
Supply - Dupline®	None
Supply - com-port	1 kVAC (rms)

Note: Use individual power supplies for all G349600xx700, as the input are not galvanic isolated from each other.

CARLO GAVAZZI

General Specifications

Power ON delay	2 s	**Humidity** (non-condensing)	20 to 80%
Indication for		**Mechanical resistance**	
Com-port Tx	LED, red	Shock	15 G (11 ms)
Supply ON	LED, green	Vibration	2 G (6 to 55 Hz)
Dupline® carrier	LED, yellow	**Dimensions**	H4-Housing
Environment		**Weight**	100 g
Pollution degree	3 (IEC 60664)		
Operating temperature	0° to +50°C (+32° to +122°F)		
Storage temperature	-50° to +85°C (-58° to +185°F)		

Mode of Operation

The Dupline® Master Module (DMM) controls a 3-wire bus with signal, DC-power and common GND. The DMM is connected to a standard DC-supply, which it synchronizes with the Dupline® carrier signal before it is output to supply. The synchronization is necessary in order to enable the Dupline® and DC-supply to share the GND-wire.

The Dupline® Master Module is a Dupline® Channel Generator with the function of a master. This means that the 128 Dupline® I/O's will be read/ written by the DMM and then sent to the PLC.

The DMM can run in two different modes – Normal mode and split I/O mode. In Normal mode, Dupline® operates as a peer-to-peer system, where the channel generator automatically establishes a connection between Dupline® inputs and Dupline® outputs which are coded to the same Dupline® address. If e.g. an input coded for B5 is activated, the output(s) coded for B5 will also be activated.

Consequently, a Dupline®-output can either be activated through the output-data received on DMM or by an active Dupline® input coded for the same Dupline®-address. In "Split I/O" mode, the channel generator treats the Dupline® inputs and Dupline® outputs independently. If e.g. an input coded for B5 is activated, the DMM will make the information available for the PLC (like in normal mode), but it will not automatically activate the Dupline® output(s) coded to B5. The Dupline® outputs are controlled exclusively through the output data received from the PLC. In this mode, up to 128 Dupline® inputs and 128 Dupline® outputs are available, since an input and an output coded to the same Dupline® address can operate independently.
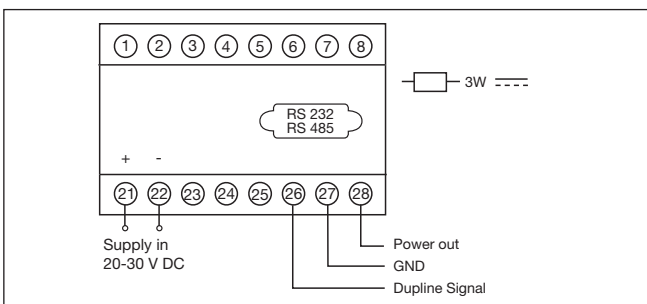
Dip-Switch Setting

Sw.2	**On:**	If Communication fails, all Dupline® channels activated by the PLC, is deactivated.
nels	**Off:**	If Communication fails, Dupline® chan-activated by the PLC, remains activated.
Sw.3 the	**On:**	Programming-port Protocol (Power up Module)
	Off:	Dedicated Protocol 1 (Power up the Module)
Sw.4	**On:**	Split I/O Channel Generator Mode (See "Mode of Operation")
	Off:	Normal Dupline® Monostable Channel Generator Mode
Sw.5	**On:**	64 Dupline® channels
	Off:	128 Dupline® channels

Memory Mapping

Table of the memory mapping to the PLC

Dupline® Channel	Mitsubishi		Dupline® Channel	Mitsubishi	
	Read	**Write**		**Read**	**Write**
A1	M0000	M0128	E1	M0032	M0160
A2	M0001	M0129	F1	M0040	M0168
A3	M0002	M0130	G1	M0048	M0176
A4	M0003	M0131	H1	M0056	M0184
A5	M0004	M0132	I1	M0064	M0192
A6	M0005	M0133	J1	M0072	M0200
A7	M0006	M0134	K1	M0080	M0208
A8	M0007	M0135	L1	M0088	M0216
B1	M0008	M0136	M1	M0096	M0224
B8	M0015	M0143	N1	M0104	M0232
C1	M0016	M0144	O1	M0112	M0240
D1	M0024	M0152	P1	M0120	M0248

Wiring Diagram

Specifications are subject to change without notice (04.12.2014)

CARLO GAVAZZI

Pin Assignment

RS-422-MI1   Com. module with terminals   **RS-422-MI2**   **RS-422-MI3**

RDA
RDB
SDA
SDB
SG
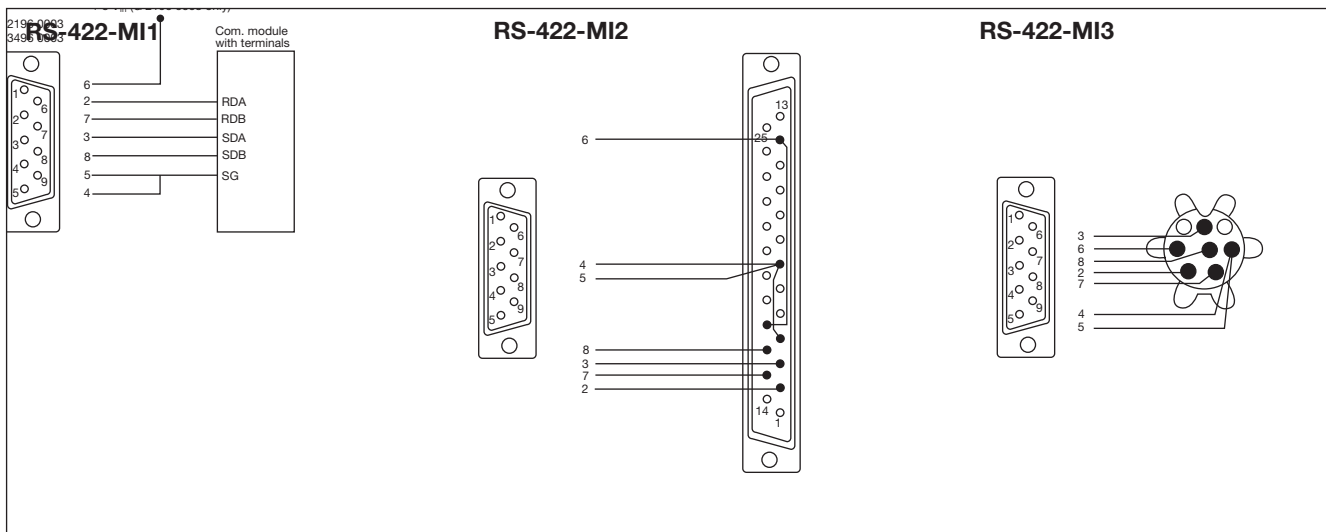
Accessories

FX- and AnS- Series
Cable Sub-D 9M/25M for 25p
Programming port   RS-422-MI2
Cable Sub-D 9M/8M DIN for 8p
Programming port   RS-422-MI3

Through RS-485 Communication Adapter or PCB
Cable Sub-D 9M/6Wires for com.
Module with Screw term.   RS-422-MI1

Interface Modules

AnS-Series
RS232   Type A1SJ71UC24-R2*
RS422/485   Type A1SJ71UC24-R4*

FX-Serie
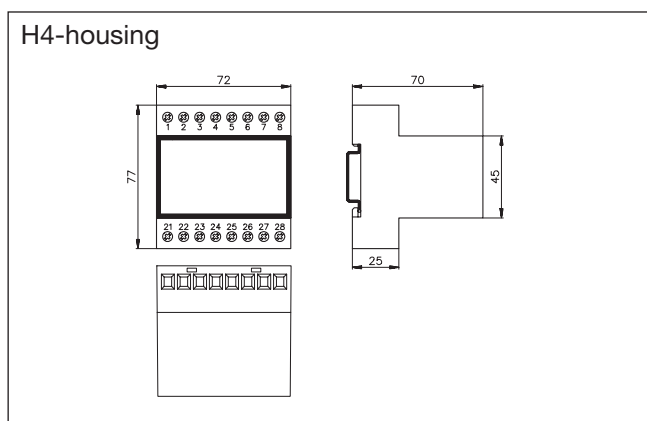Directly through the programming port or communicationmodul FXON-485ADP* or Interface adapter FX2N-485BD*

* Mitsubishi product.

Additional Information

Scope of supply
1 x Master Module   G3496 0003 700

Installation Hints

No Dupline® Carrier-LED
Short circuit   Short circuit between the two Dupline® wires.

Dimensions (mm)

H4-housing

72   70   77   45   25

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for I/O Modules *category:*

Click to view products by Carlo Gavazzi *manufacturer:*

Other Similar products are found below :

70L-IDC5S 70L-OAC-L 70Z3289-4 G21960000700 G21960002700 G34960002700 G88104401 GUR02 OACU C4SWOUT PB16H SM-IDC15 G34960001700 G77-S G78-16-E GP34829091724 GP34960005700 JQP4 ODC-24A IDC5P FC6A-N16B1 6421 FC6A-N32B3 70MRCQ32-HL 70Z5120 C200H-LK201-V1 G3TA-OA202SZ-US DC12 GT1-OD16 GT1-AD04CST GT1-DA04 B7AM-6BS GRT1-ML2 GRT1-TS2P CRT1-ID16TAH-1 70GRCQ24-HS CRT1-ID08 G7TC-ID16 DC24V CRT1-ID08-1 84110210 6422 AIIS-DIO32-00A1E 84110410 GT1-OD16MX GRT1-PC8 G7VC-OC16-B7 G7TC-OC08-1 DC24V G7TC-IA16 AC200/220V G7TC-OC08 DC24V 70MRCK24-DIN 2736505