

# Controller - ILC 191 ME/INC - 2700075

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Inline controller with integrated pulse/direction/PWM interface, RS-485/RS-422, fast counters, and incremental encoder inputs, with programming options according to IEC 61131-3

## Product Description

The ILC 191 ME/INC modular small-scale controller for the Inline I/O system is at the heart of Easy Automation. The new ILC 1X1 series is characterized by its support for the Modbus/TCP and PROFINET Ethernet-based protocols. A new feature is the support for an optional SD card. The controller already has 8 digital inputs and 4 outputs, a two-channel pulse/direction/PWM interface, an integrated RS-232 interface and RS-485/RS-422 interface, a two-channel fast counter with a cut-off frequency of up to 200 kHz, and two incremental encoder inputs for asymmetrical incremental encoders.

## Your advantages

- Numerous protocols supported such as: HTTP, FTP, SNTP, SNMP, SMTP, SQL, MySQL, etc.
- Modbus/TCP-Client
- PROFINET-Device
- Large program memory and mass storage (1024 kB/1024 kB)
- Modbus/TCP server
- HTML 5
- Free engineering with PC Worx Express (IEC 61131-3)
- Integrated pulse/direction/PWM interface
- Integrated RS-485/RS-422 interface
- Integrated fast counters and incremental encoder inputs
- Web server, FTP server, and Flash file system



## Key Commercial Data

Packing unit	1 pc
GTIN	
GTIN	4046356479103

## Technical data

### Note

# Controller - ILC 191 ME/INC - 2700075

## Technical data

### Note

Utilization restriction	EMC: class A product, see manufacturer's declaration in the download area
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### Dimensions

Width	164 mm
Height	136.8 mm
Depth	71.5 mm

### Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-25 °C ... 55 °C
Ambient temperature (storage/transport)	-25 °C ... 85 °C
Permissible humidity (operation)	10 % ... 95 % (according to DIN EN 61131-2)
Permissible humidity (storage/transport)	10 % ... 95 % (according to DIN EN 61131-2)
Air pressure (operation)	70 kPa ... 106 kPa (up to 3000 m above sea level)
Air pressure (storage/transport)	70 kPa ... 106 kPa (up to 3000 m above sea level)
Shock	25g, Criterion 1, according to IEC 60068-2-27
Vibration (operation)	5g

### Control system

Engineering tool	PC WORX
	PC WORX EXPRESS
Programming languages supported	Programming in acc. with IEC 61131-3
Diagnostics tool	DIAG+
Configuration tool	Config+ Version 1.01 or later

### IEC 61131 runtime system

Engineering tool	PC WORX
	PC WORX EXPRESS
Program memory	1 Mbyte
Mass storage	1 Mbyte
Retentive mass storage	48 kByte (NVRAM)
Number of control tasks	8
Realtime clock	Yes
Battery	Integrated (rechargeable battery buffered)

### Fieldbus function

Amount of process data	max. 4096 Bit (INTERBUS)
	max. 32768 Bit (internal Modbus /TCP client)
Number of supported devices	max. 128
Number of local bus devices that can be connected	max. 63 (observe current consumption)
Number of devices with parameter channel	max. 24
Number of supported branch terminals with remote bus branch	max. 3
Program memory	1 Mbyte

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## Technical data

### Data interfaces

Interface	Ethernet 10Base-T/100Base-TX
Number	2
Connection method	RJ45 jack
Transmission speed	10/100 Mbps
Interface	INTERBUS local bus (master)
Number	1
Connection method	Inline data jumper
Transmission speed	500 kBaud / 2 MBaud (can be switched)
Interface	Parameterization/operation/diagnostics
Number	1
Connection method	6-pos. MINI DIN socket (PS/2)
Transmission speed	max. 115.2 kbps
Interface	RS-422/-485
Number	1
Connection method	4-pos. for full duplex
	2-pos. for half duplex

### PROFINET

Device function	PROFINET device
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### Direct I/Os

Input name	Digital inputs
Number of inputs	8
Connection method	Inline potential distributor
Connection technology	2, 3, 4-wire
Description of the input	EN 61131-2 type 1 NPN/PNP
Output name	Digital outputs
Number of outputs	4
Connection method	Spring-cage connection
Connection technology	2, 3, 4-wire
Maximum output current per channel	500 mA
Output name	Pulse directional output for 5 V signals
Number of pulse direction outputs	2 (can be used as an alternative to pulse width modulation)
Connection method	Spring-cage connection
Connection technology	2, 3-wire
Output voltage	5 V
Limit frequency	150 kHz
Input name	Counter input for 24 V signals
Number of inputs	2
Input voltage range "1" signal	5 V DC ... 24 V DC
Input frequency	200 kHz
Input name	Encoder input

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## Technical data

### Direct I/Os

Number of inputs	2 (3-coil, asymmetrical)
Input voltage range "1" signal	5 V DC ... 24 V DC

### Power supply

Typical current consumption	350 mA
Supply voltage	24 V DC
Supply voltage range	19.2 V DC ... 30 V DC
Residual ripple	± 5 %
Power dissipation	max. 8.4 W

### Mechanical design

Weight	285 g
Diagnostics display	No
Controller redundancy	No
Safety function	No

### General data

Processor	Altera Nios II 64 MHz
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### Standards and Regulations

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Interference emission	Noise emission test as per EN 61000-6-4 EN 55011 Class A
Immunity to surge	Noise immunity test in accordance with EN 61000-6-2 Transient overvoltage (surge) EN 61000-4-5/IEC 61000-4-5 Criterion B, supply lines DC: 0.5 kV/0.5 kV (symmetrical/asymmetrical), fieldbus cable shield 1 kV
Immunity to burst	Noise immunity test in accordance with EN 61000-6-2 Fast transients (burst) EN 61000-4-4/IEC 61000-4-4 Criterion A, all interfaces 1 kV Criterion B, all interfaces 2 kV
Immunity to EF	Noise immunity test in accordance with EN 61000-6-2 Electromagnetic fields EN 61000-4-3/IEC 61000-4-3 Criterion A, Field intensity: 10 V/m
Immunity to ESD	Noise immunity test in accordance with EN 61000-6-2 Electrostatic discharge (ESD) EN 61000-4-2/IEC 61000-4-2 Criterion B, 6 kV contact discharge, 8 kV air discharge
Immunity to conducted interference	Noise immunity test in accordance with EN 61000-6-2 Conducted interference EN 61000-4-6/IEC 61000-4-6 Criterion A, Test voltage 10 V
Vibration (storage/transport)	5g
Shock	25g, Criterion 1, according to IEC 60068-2-27
Vibration (operation)	5g

### Environmental Product Compliance

China RoHS	Environmentally Friendly Use Period = 50 years
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

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## Classifications

### eCl@ss

eCl@ss 4.0	27240409
eCl@ss 4.1	27240409
eCl@ss 5.0	27242207
eCl@ss 5.1	27242700
eCl@ss 6.0	27242200
eCl@ss 7.0	27242207
eCl@ss 8.0	27242207
eCl@ss 9.0	27242207

### ETIM

ETIM 4.0	EC000236
ETIM 5.0	EC000236
ETIM 6.0	EC000236

### UNSPSC

UNSPSC 6.01	43172015
UNSPSC 7.0901	43201404
UNSPSC 11	43172018
UNSPSC 12.01	43201404
UNSPSC 13.2	39122114
UNSPSC 19.0	39122114

## Accessories

### Accessories

#### Drivers and interfaces

#### Software - AX OPC SERVER - 2985945



AX OPC SERVER, communication interface for OPC-capable visualization with PC WORX-based controls.

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#### Software - PC WORX UA SERVER-PLC 10 - 2402684



OPC UA server for communication with a maximum of 10 modular small-scale controllers (AXC 1xxx or ILC 1x1)

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## Accessories

Software - PC WORX UA SERVER-PLC 40 - 2402685



OPC UA server for communication with a maximum of 25 controllers

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Software - PC WORX UA SERVER-PLC 80 - 2402686



OPC UA server for communication with a maximum of 200 controllers

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## Parameterization memory

Memory - SD FLASH 512MB - 2988146



Program and configuration memory, plug-in, 512 Mbyte.

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Program / configuration memory - SD FLASH 512MB APPLIC A - 2701799



Program and configuration memory for extending the internal Flash memory, plug-in, 512 MB, with license key for function block libraries, e.g., for: SNMP, SQL, wireless, motion functions, etc.

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Memory - SD FLASH 512MB PDPI BASIC - 2701800



Program and configuration memory, plug-in, 512 MB with license key for licensing the PDPI - BASIC functional block for precise multi-channel controllers with self-optimization, e.g., for heating and cooling functions or hydraulic movements.

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## Controller - ILC 191 ME/INC - 2700075

### Accessories

#### Memory - SD FLASH 512MB PDPI PRO - 2701801



Program and configuration memory, plug-in, 512 MB with license key for licensing the PDPI - PRO functional block for precise multi-channel controllers with self-optimization, additional functions: e.g., for setpoint processing, for heating and cooling functions.

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#### Program / configuration memory - SD FLASH 2GB - 2988162



Program and configuration memory, for extending the internal flash memory, pluggable, 2 GB.

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#### Program / configuration memory - SD FLASH 2GB APPLIC A - 2701190



Program and configuration memory for extending the internal Flash memory, plug-in, 2 GB, with license key for function block libraries, e.g., for: SNMP, SQL, wireless, motion functions, etc.

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### Programming cable

#### Connecting cable - COM CAB MINI DIN - 2400127



Connecting cable, for connecting the controller to a PC (RS-232) for PC WORX with flow control, 3 m in length

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#### Software - IPASSIGN - 2701094



IPAssign is an easy to use tool for setting the IP address of devices which rely on BOOTP. No installation or administrative rights are required to use IPAssign.

This product is free and only available from the "Downloads" tab.

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