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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.

#### **Product Features**

- 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
Weight per Piece (excluding packing)	620.0 g
Custom tariff number	85371091
Country of origin	Germany



# 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 mean sea level)
Air pressure (storage/transport)	70 kPa 106 kPa (up to 3000 m above mean sea level)
Shock	25g, Criterion 1, according to IEC 60068-2-27
Vibration (operation)	5g

## Control system

Programming tool	PC WORX / PC WORX EXPRESS
Diagnostics tool	DIAG+
Configuration tool	Config+ Version 1.01 or later

### Mechanical design

Weight	285 g
Diagnostics display	No
Controller redundancy	No

#### Data interfaces

Interface	INTERBUS local bus (master)
Connection method	Inline data jumper
Transmission speed	500 kBaud / 2 MBaud (can be switched)
Interface	Parameterization/operation/diagnostics
Connection method	RS-232-C, 6-pos. MINI-DIN socket (PS/2), Ethernet 10/100 (RJ45)
Transmission speed	max. 115,2 kBit/s
Interface	RS-422/485
Connection method	4-pos. for full duplex
	2-pos. for half duplex
Interface	Ethernet 10Base-T/100Base-TX



## Technical data

#### Data interfaces

Connection method	RJ45 socket
Transmission speed	10/100 MBit/s

#### PROFINET

Device function PROFINE I device
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## 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

## **Fieldbus function**

Amount of process data	max. 4096 Bit (INTERBUS)
	max. 32768 Bit (internal Modbus 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

#### Direct I/Os

Input name	Digital inputs
Number of inputs	8
Connection method	Inline potential distributor
Description of the input	EN 61131-2 type 1 NPN/PNP
Output name	Digital outputs
Number of outputs	4
Connection method	2, 3, 4-wire
Maximum output current per channel	500 mA
Without analog input	yes
Without analog output	yes
Without pulse direction output	No
Number of pulse direction outputs	2 (can be used as an alternative to pulse width modulation)
Output voltage	5 V
Limit frequency	150 kHz
Without counter input	No
Number of inputs	2
Input voltage range "1" signal	5 V DC 24 V DC



# Technical data

### Direct I/Os

Input frequency	200 kHz
Number of inputs	2 (3-coil, asymmetrical)
Input voltage range "1" signal	5 V DC 24 V DC

#### General data

Processor	Altera Nios II 64 MHz
Diagnostics display	No

# Standards and Regulations

Shock	25g, Criterion 1, according to IEC 60068-2-27
Vibration (storage/transport)	5g
Vibration (operation)	5g

## Classifications

## eCl@ss

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

## ETIM

ETIM 4.0	EC000236
ETIM 5.0	EC000236

## UNSPSC

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

## Approvals

### Approvals



## Approvals

Approvals

UL Listed / cUL Listed / EAC / cULus Listed

Ex Approvals

Approvals submitted

Approval details

UL Listed 🖲

cUL Listed 🖤

EAC

cULus Listed

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