

ILC 131 ETH - Controller

2700973

<https://www.phoenixcontact.com/us/products/2700973>



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The Inline controller offers the option of communicating via PROFINET and Modbus/TCP. Programming is carried out using PC Worx Express or PC Worx (IEC 61131-3).

Product description

The ILC 131 ETH modular small-scale controller for the Inline I/O system is at the heart of Easy Automation. The 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.

Your advantages

- Memory extendable by up to 2 GB via plug-in SD card
- Free engineering with PC Worx Express (IEC 61131-3)
- Complete INTERBUS master (4096 I/O points)
- PROFINET-Device
- Modbus/TCP-Client
- Integrated FTP and HTML5 web server
- Numerous protocols supported such as: HTTP, FTP, SNTP, SNMP, SMTP, SQL, MySQL, etc.

Commercial data

Item number	2700973
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DR10
Product key	DRAAAA
Catalog page	Page 48 (C-6-2019)
GTIN	4046356665490
Weight per piece (including packing)	378 g
Weight per piece (excluding packing)	348.2 g
Customs tariff number	85371091
Country of origin	DE

Technical data

Notes

Utilization restriction

CCCex note	Use in potentially explosive areas is not permitted in China.
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Product properties

Type	modular
Product type	Controller
Product family	Inline-Controller

Display

Diagnostics display	No
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System properties

Processor	Altera Nios II 64 MHz
Retentive data storage	8 kByte (NVRAM)

IEC 61131 runtime system

Program memory	192 kByte
Data storage system	192 kByte
Number of control tasks	8

INTERBUS-Master

Amount of process data	max. 4096 bit (INTERBUS)
Number of supported devices	max. 63
Number of local bus devices that can be connected	max. 63 (observe current consumption)
Number of devices with parameter channel	max. 8

Modbus/TCP-Client

Amount of process data	max. 8192 bit (internal Modbus /TCP client)
Number of Modbus/TCP clients	max. 4 later than FW 4.42

PROFINET

Device function	PROFINET device
Specification	2.2
Device ID	007D _{hex} / 125 _{dez}
Vendor ID	00B0 _{hex} / 176 _{dez}

Function

Diagnostics display	No
Controller redundancy	No
Safety function	No

Functionality

Instruction list (IL)

Programming languages supported	Symbolic flowchart (SFC)
	Ladder diagram (LD)
	Function block diagram (FBD)
	Structured text (ST)

System requirements

Engineering tool	PC Worx
	PC Worx Express
Configuration tool	Config+ Version 1.01 or later
Diagnostics tool	DIAG+
Runtime system	eCLR
Application interface	OPC

Electrical properties

Transmission medium	Copper
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Real-time clock

Realtime clock	Yes
Description realtime clock	integrated (rechargeable battery buffered)

Potentials: 24 V supply U_{ILC}

Supply voltage	24 V DC -15 % / +20 % (in accordance with EN 61131-2)
Supply voltage range	19.2 V DC ... 30 V DC
Current draw	80 mA (without connected I/O terminal blocks)

Potentials: 7.5 V communications power U_L (potential jumper)

Supply voltage	7.5 V DC \pm 5 %
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Potentials: 24 V analog supply U_{ANA} (potential jumper)

Supply voltage	24 V DC -15 % / +20 %
Supply voltage range	19.2 V DC ... 30 V DC (including all tolerances, including ripple)

Potentials: 24 V main supply U_M

Supply voltage	24 V DC -15 % / +20 % (in accordance with EN 61131-2)
Supply voltage range	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
Current draw	max. 8 A DC
	6 mA (without sensors)

Potentials: 24 V segment supply U_S

Supply voltage	24 V DC -15 % / +20 % (in accordance with EN 61131-2)
Supply voltage range	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
Current draw	max. 8 A DC
	10 mA (without actuators)

Input data

Digital


Input name	Digital inputs
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Description of the input	EN 61131-2 type 1 NPN/PNP
Number of inputs	8
Cable length	max. 30 m
Connection method	Inline potential distributor
Connection technology	2-, 3-, 4-conductor
Input voltage range	-0.5 V ... 30 V
Input voltage range "0" signal	-0.5 V ... 5 V
Input voltage range "1" signal	15 V ... 30 V
Nominal input current at U_{IN}	typ. 7 mA max. 15 mA
Input filter time	typ. 5 ms (Signal change 0→  typ. 5 ms ()

Output data

Digital

Output name	Digital outputs
Connection method	Spring-cage connection
Connection technology	2-, 3-, 4-conductor
Number of outputs	4
Maximum output current per channel	500 mA
Maximum output current per module / terminal block	2 A
Nominal load, lamp	12 W
Nominal load, ohmic	12 W

Connection data

Cross section AWG	(converted acc. to IEC)
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Inline connector

Connection method	Spring-cage connection
Conductor cross section, rigid	0.08 mm ² ... 1.5 mm ²
Conductor cross section, flexible	0.08 mm ² ... 1.5 mm ²
Conductor cross section AWG	28 ... 16

Interfaces

Web server	yes
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Ethernet

Bus system	RJ45
Number of interfaces	1
Connection method	RJ45 jack
Transmission speed	10/100 Mbps
No. of channels	1

INTERBUS local bus (master)

Number of interfaces	1
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Connection method	Inline data jumper
Transmission speed	500 kBaud / 2 MBaud (can be switched)

Parameterization/operation/diagnostics

Bus system	RS-232
Number of interfaces	1
Connection method	6-pos. MINI DIN socket (PS/2)
Transmission speed	max. 115.2 kbps
Transmission physics	Copper
No. of channels	1

Dimensions

Width	80 mm
Height	119.8 mm
Depth	71.5 mm

Material specifications

Color	green
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Environmental and real-life conditions

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)
Shock	25g, Criterion 1, according to IEC 60068-2-27
Vibration (operation)	5g
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)
Resistance to gases that may endanger the functions, in acc. with DIN 40046-36, DIN 40046-37	Sulfur dioxide (SO ₂) 10 ±0.3 ppm (test duration: 10 days), hydrogen sulfide (H ₂ S) 1 ±0.3 ppm (test duration: 4 days), both at 25°C and with 75% humidity

EMC data

Conformance with EMC directives	Immunity test in accordance with EN 61000-6-2/IEC 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 test in accordance with EN 61000-6-2/IEC 61000-6-2 Electromagnetic fieldsEN 61000-4-3/IEC 61000-4-3 Criterion A, Field intensity: 10 V/m Immunity test in accordance with EN 61000-6-2/IEC 61000-6-2 Fast transients (burst)EN 61000-4-4/IEC 61000-4-4 Criterion A, all interfaces 1 kVCriterion B, all interfaces 2 kV Immunity test in accordance with EN 61000-6-2/IEC 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
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	Immunity test in accordance with EN 61000-6-2/IEC 61000-6-2 Conducted interferenceEN 61000-4-6/IEC 61000-4-6 Criterion A, Test voltage 10 V
	Noise emission test in accordance with EN 61000-6-4/IEC 61000-6-4 EN 55011 Class A
Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU

Mounting

Mounting type	DIN rail mounting
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Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2700973>



EAC

Approval ID: RU*DE*08.B.00529/19



DNV GL

Approval ID: TAA00002CU



LR

Approval ID: LR22191720TA



BV

Approval ID: 20989_C0 BV

BSH

Approval ID: 858



RINA

Approval ID: ELE121121XG

ABS

Approval ID: 22-2226444-PDA



cULus Listed

Approval ID: FILE E 238705

UAE-RoHS

Approval ID: 22-04-13087



EAC

Approval ID: RU*DE*08.B.00529/19

ABS

Approval ID: 22-2226444-PDA

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BSH

Approval ID: 858



DNV GL

Approval ID: TAA00002CU



RINA

Approval ID: ELE121121XG



LR

Approval ID: LR22191720TA



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Approval ID: FILE E 238705

UAE-RoHS

Approval ID: 22-04-13087



IECEX

Approval ID: IECEX TUR 20.0099



cULus Listed

Approval ID: FILE E 199827



ATEX

Approval ID: TÜV 20 ATEX 8619 X



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Approval ID: FILE E 199827

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Classifications

ECLASS

ECLASS-11.0	27242207
ECLASS-12.0	27242207
ECLASS-13.0	27242207

ETIM

ETIM 9.0	EC000236
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UNSPSC

UNSPSC 21.0	32151700
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Environmental product compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads"

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Accessories

COM CAB MINI DIN - Connecting cable

2400127

<https://www.phoenixcontact.com/us/products/2400127>

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



SD FLASH 512MB - Program / configuration memory

2988146

<https://www.phoenixcontact.com/us/products/2988146>

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



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SD FLASH 512MB APPLIC A - Program / configuration memory

2701799

<https://www.phoenixcontact.com/us/products/2701799>



Program and configuration memory for extending the internal Flash memory, plug-in, 512 MB with license key for function block libraries. For licensed function blocks, please refer to the documentation.

SD FLASH 512MB PDPI BASIC - Memory

2701800

<https://www.phoenixcontact.com/us/products/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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SD FLASH 512MB PDPI PRO - Memory

2701801

<https://www.phoenixcontact.com/us/products/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.

SD FLASH 2GB - Program / configuration memory

2988162

<https://www.phoenixcontact.com/us/products/2988162>



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

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SD FLASH 2GB APPLIC A - Program / configuration memory

2701190

<https://www.phoenixcontact.com/us/products/2701190>



Program and configuration memory for extending the internal Flash memory, plug-in, 2 GB with license key for function block libraries. For licensed function blocks, please refer to the documentation.

AX OPC SERVER - Driver and interface software

2985945

<https://www.phoenixcontact.com/us/products/2985945>



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

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IPASSIGN - Software

2701094

<https://www.phoenixcontact.com/us/products/2701094>



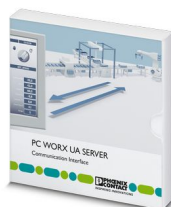
IPAssign is an easy to use tool for setting the IP address of devices which rely on BOOTP. No installation or administrative rights are required to use IPAssign.

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

PC WORX UA SERVER-PLC 10 - Driver and interface software

2402684

<https://www.phoenixcontact.com/us/products/2402684>



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

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PC WORX UA SERVER-PLC 40 - Driver and interface software

2402685

<https://www.phoenixcontact.com/us/products/2402685>

OPC UA server for communication with a maximum of 25 controllers



PC WORX UA SERVER-PLC 80 - Driver and interface software

2402686

<https://www.phoenixcontact.com/us/products/2402686>

OPC UA server for communication with a maximum of 200 controllers



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