ILC 2250 BI - Controller

1541303

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CRA READY

The modular Inline controller for automation applications in infrastructure, energy, and buildings is based on the Niagara Framework®.
Four LAN, two USB, and two RS-485 interfaces are integrated.
The controller can be extended with numerous Inline I/O modules.

Product description

The ILC 2250 BI is the powerful successor to the ILC 2050 BI, the central controller for automation of buildings, infrastructure, and energy. The industrial design guarantees a high level of reliability and therefore makes the ILC 2250 BI suitable for business-critical applications. It is equipped with 4 LAN, 2 USB, and 2 RS-485 interfaces. The controller can be extended with a wide range of Inline modules for digital and analog I/Os and for all widely used bus systems. The corresponding drivers ensure uniform interfaces, thus greatly simplifying system integration.

Your advantages

- Time-optimized engineering using the Niagara 4 framework
- Support for all the main communication protocols used in building infrastructure automation
- Effective engineering and visualization with Emalytics and the Niagara Framework
- Easy extension of the Niagara 4 framework with self-programmed functions
- Digital twin as the basis for smart buildings
- Software security with secure boot, signed software, and TPM-protected device identity

powered by niagara framework®

Commercial data

Item number	1541303
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DR18
Product key	DRHAAA
GTIN	4067923013964
Weight per piece (including packing)	317 g
Weight per piece (excluding packing)	237 g
Customs tariff number	85371091
Country of origin	DE

Technical data

Notes

Note on application

Note on application	Only for industrial use

Product properties

Product type	Controller
Product family	Inline-Controller
Installation location	indoor use
Installation location	Control cabinet
Special properties	Development process certified in accordance with IEC 62443-4-1

Insulation characteristics

Protection class	III (IEC 61140, EN 61140, VDE 0140-1)
Overvoltage category	II (IEC 60664-1, EN 60664-1)
Pollution degree	2 (IEC 60664-1, EN 60664-1)

System properties

Trusted Platform Module	TPM 2.0
Retentive data storage	512 kByte (NVRAM)
RAM	2048 Mbyte (LPDDR4-RAM)

IEC 61131 runtime system

Data storage system	5 GByte (eMMC)

INTERBUS-Master

Amount of process data	max. 4096 bit (INTERBUS)
Amount of process data (INTERBUS input/output data max.)	max. 4096 bit (INTERBUS)
Number of local bus devices that can be connected	max. 63 (observe current consumption)
Number of devices with parameter channel	max. 16

Programming data

Register length (master)	512 Byte

Functionality

Programming languages supported	Niagara Framework®

Electrical properties

Supply

Current carrying capacity (Terminal points)	8 A

Real-time clock

Realtime clock	integrated (capacitive buffering)

Potentials: 24 V supply U_{ILC}

Supply voltage	24 V DC (via Inline connector)
Supply voltage range	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
Current draw	max. 1.6 A
	typ. 170 mA (without connected I/O terminal blocks)

Potentials: 7.5 V communications power U_L (potential jumper)

Supply voltage	7.5 V DC ±5 %
Power supply	max. 2 A DC

Potentials: 24 V analog supply U_{ANA} (potential jumper)

Supply voltage	24 V DC
Supply voltage range	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
Power supply	max. 0.5 A DC

Potentials: Main circuit supply (U_M)

Supply voltage	24 V DC (via Inline connector)
Supply voltage range	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
Power supply	max. 8 A DC (sum of U_M + U_S)

Potentials: Segment circuit supply (U_S)

Supply voltage	24 V DC (via Inline connector)
Power supply	max. 8 A DC (sum of U_M + U_S)

Connection data

Inline connector

Connection method	Spring-cage connection
Conductor cross-section, rigid	0.08 mm² ... 1.5 mm²
Conductor cross-section, flexible	0.08 mm² ... 1.5 mm²
Conductor cross-section AWG	28 ... 16
Stripping length	8 mm

Interfaces

Supported protocols	BACnet/IP
	BACnet MS/TP (only at COM1 and COM2)
	Modbus/TCP
	Modbus/RTU
	KNX IP
	DALI
	DALI-2
	LON IP
	EnOcean
	SMI
	MP-Bus
	SNMP
	M-Bus

	MQTT
	OPC UA
	Simple OpenADR
	LDAP
	SMS
	CSV
	oBIX
Web server	yes

Ethernet

Bus system	RJ45
Number of interfaces	4
Connection method	RJ45 jack, shielded
Transmission speed	10/100/1000 Mbps
No. of channels	2
Bus system	RS-485
Number of interfaces	2

USB

Bus system	USB type C
Number of interfaces	2
Connection method	USB type C

microSD

Bus system	microSD
Number of interfaces	1 (Top)
Connection method	microSD slot

Dimensions

Width	80 mm
Height	119.8 mm
Depth	71.5 mm
Width	80 mm
Height	119.8 mm
Depth	71.5 mm

Material specifications

Color (Housing)	green (RAL 6021)

Mechanical tests

Vibration resistance in accordance with EN 60068-2-6/IEC 60068-2-6	: 5g
Shock in accordance with EN 60068-2-27/IEC 60068-2-27	: 30g
Continuous shock in accordance with EN 60068-2-27/IEC 60068-2-27	: 10g

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-25 °C ... 55 °C (observe derating)
Ambient temperature (storage/transport)	-25 °C ... 85 °C
Permissible humidity (operation)	0 % ... 75 % (according to DIN EN 61131-2)
Permissible humidity (storage/transport)	0 % ... 75 % (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 hPa ... 106 kPa (up to 3000 m above sea level)
GRP_Temperature class	T4
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_2S) 1 ±0.3 ppm (test duration: 4 days), both at 25°C and with 75% humidity

EMC data

Electromagnetic compatibility	Conformance with EMC directive
Conformance with EMC directives	Immunity test in accordance with EN IEC 61000-6-2 Transient overvoltage (surge) Criterion B
	Immunity test in accordance with EN IEC 61000-6-2 Fast transients (burst) Criterion A, ±500 V,Criterion B, ±1000 V
	Immunity test in accordance with EN IEC 61000-6-2 Electromagnetic fields Criterion A, Field intensity: 10 V/m
	Immunity test in accordance with EN IEC 61000-6-2 Electrostatic discharge (ESD) Criterion A, ±4 kV contact discharge, ±8 kV air discharge
	Immunity test in accordance with EN IEC 61000-6-2 Conducted disturbance Criterion A, Test voltage 10 V
	Noise emission test in accordance with EN 61000-6-3/IEC 61000-6-3 Class B

Mounting

Mounting type	DIN rail mounting
Mounting position	horizontal
	Alternative mounting positions are possible, but can lead to a reduction in thermal performance.

Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/1541303

cULus Listed
Approval ID: E238705

Classifications

ECLASS

ECLASS-13.0	27242207
ECLASS-15.0	27242207

UNSPSC

UNSPSC 21.0	32151700

Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	6(a)-I, 6(c), 7(a), 7(c)-I

China RoHS

Environment friendly use period (EFUP)	EFUP-50
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

EU REACH SVHC

REACH candidate substance (CAS No.)	Diboron trioxide(CAS: 1303-86-2)
	Lead titanium zirconium oxide(CAS: 12626-81-2)
	4,4'-isopropylidenediphenol(CAS: 80-05-7)
	Lead(CAS: 7439-92-1)
	diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide(CAS: 75980-60-8)

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