ILC 2050 BI - Controller

2403160

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Modular Inline controller for automation applications in the fields of building technology, infrastructure, and energy technology. Equipped with two logically separated IP address interfaces each with 2 integrated Fast Ethernet ports. Configurable assignment of the Ethernet ports for the use of the spanning-tree protocol, daisy chain and redundant ring structures for maximum availability. Four LAN, two USB, and two RS-485 interfaces are integrated. The data point connections can be extended with up to 63 Inline I/O modules: digital and analog, function terminals for DALI, pulse counting, MBUS or serial interfaces.

Product description

The ILC 2050 BI is the central controller for automation of buildings, infrastructure, and energy. The industrial design guarantees a high level of reliability and therefore makes the ILC 2050 BI suitable for business-critical applications. It is equipped with four LAN, two USB and two RS-485 interfaces. The controller can be extended with numerous Inline modules for digital and analog I/Os and for all standard 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
- Planning, engineering, and visualization in the Java-based Niagara 4 framework
- Easy extension of the Niagara 4 framework with self-programmed functions

Commercial data

Item number	2403160
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DR18
Product key	DRHAAA
GTIN	4055626260587
Weight per piece (including packing)	324.5 g
Weight per piece (excluding packing)	243 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

Display

Diagnostics display	no

System properties

Retentive data storage	2 GByte (eMMC)
RAM	1024 Mbyte DDR3 SDRAM

IEC 61131 runtime system

Data storage system	2 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

Function

Diagnostics display	no
Redundancy function	no
Safety function	no

Programming data

Register length (master)	512 Byte

Functionality

Programming languages supported	Niagara Framework®

Electrical properties

Supply

Supply voltage (DC)	24 V DC
Supply voltage range	19.2 V DC ... 30 V DC
Max. current consumption	≤ 1.5 A
Typical current consumption	≤ 170 mA (at nominal voltage without local bus device)

Current carrying capacity	8 A

Real-time clock

Realtime clock	Yes

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. 1.5 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 A
Number of interfaces	1
Connection method	USB type A, socket

USB

Bus system	Mini-USB
Number of interfaces	1

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

Material specifications

Color (Housing)	green (RAL 6021)

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

Mounting

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

Approvals

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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, No exemptions

China RoHS

Environment friendly use period (EFUP)	EFUP-E
	No hazardous substances above the limits

EU REACH SVHC

REACH candidate substance (CAS No.)	No substance above 0.1 wt%

EF3.1 Climate Change

CO2e kg	63.06 kg CO2e

Phoenix Contact USA
586 Fulling Mill Road
Middletown, PA 17057, United States
(+717) 944-1300
info@phoenixcon.com