

# 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
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### Product properties

Product type	Controller
Product family	Inline-Controller
Installation location	indoor use
Installation location	Control cabinet

#### Display

Diagnostics display	no
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### System properties

Processor	Arm®Cortex®-A8 1 GHz
Retentive data storage	2 GByte (eMMC)
RAM	1024 Mbyte DDR3 SDRAM

#### IEC 61131 runtime system

Data storage system	2 GByte (eMMC)
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#### Function

Diagnostics display	no
Redundancy function	no
Safety function	no

#### Functionality

Programming languages supported	Niagara Framework®
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#### System requirements

Engineering tool	Emalytics
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### 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
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#### Potentials

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Supply voltage	24 V DC -15 % / +20 % (in accordance with EN 61131-2)
Supply voltage range	19.2 V DC ... 30 V DC

## 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

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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)
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## 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 <sub>2</sub> ) 10 ±0.3 ppm (test duration: 10 days), hydrogen sulfide (H <sub>2</sub> S) 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.

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## Approvals

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**cULus Listed**

Approval ID: E238705

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## Classifications

### ECLASS

ECLASS-13.0	27242207
ECLASS-15.0	27242207

### ETIM

ETIM 9.0	EC000236
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### UNSPSC

UNSPSC 21.0	32151700
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## 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%
EF3.0 Climate Change	
CO2e kg	63.06 kg CO2e

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