> PRIVA BLUE ID S-LINE DI4/DI8/D16

Digital input module

An Priva Blue ID S-Line DI4 Digital input module, Priva Blue ID S-Line DI8 Digital input module or Priva Blue ID S-Line DI16 Digital input module are used to take status and pulse counter measurements, to determine the status of pumps or fans, for instance.

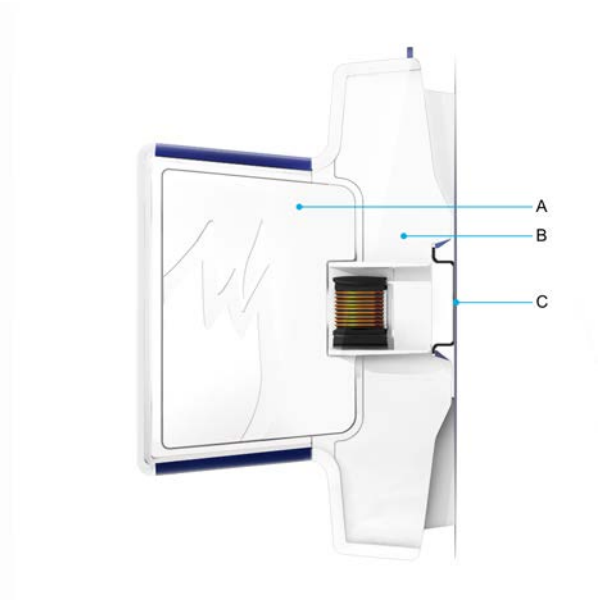
Characteristics

- 4, 8 or 16 software configurable digital inputs
- input voltage of 24 VAC or 24 VDC
- types of measurement: status and pulse
- maximum input frequency of 1400 Hz
- inputs are electrically isolated from system neutral
- each wire has its own terminal block
- field power (FP) loop through
- field ground (FG) loop through
- hot swappable
- 24 V system power supply monitoring
- LED per input, colour is adjustable
- LED for status of module
- Priva Blue ID Lifeline
- text card for identification of inputs

Modular solution

An optimal fit is always possible because the module is available with a choice of 4, 8 or 16 inputs.

Modular design



Module (A) and base (B) form a unique combination. As a result of this, a module cannot be incorrectly positioned in a base.

You simply click the base onto the DIN rail (C). The wiring easily connects to the base via spring terminals. The base remains in place when replacing the module, removing the need to rewire.

Hot swappable

Removing a module from the base and replacing it can easily be done without tools. This can be done live (hot swappable).

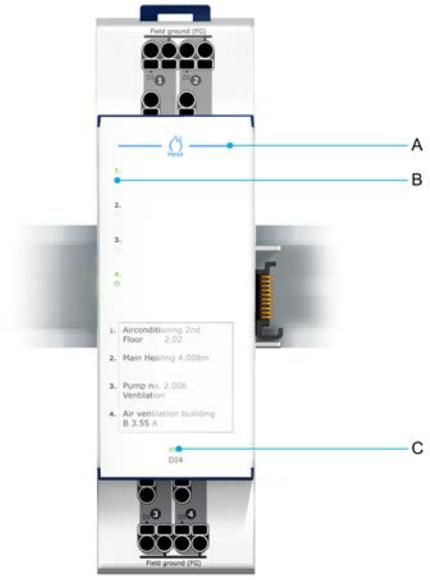
Wiring

You do not need to disconnect wiring when exchanging modules. This is because the wiring is connected to the module's base.

Quick and faultless wiring

Each input has three terminals. In addition to a terminal for the device, each input has an FG terminal and an FP terminal that can be used to wire a sensor directly to the module. This avoids the need for additional terminals to loop the wiring through.

Clear indication



Legend

A	Priva Blue ID Lifeline
B	LEDs for status of inputs
C	LED for status of module

Priva Blue ID Lifeline

The modules are equipped with blue LEDs. Together, these LEDs form the Priva Blue ID Lifeline. If the blue line is continuously on, the modules and bases are in the correct place according to the configuration in TC Engineer.

LEDs for status of inputs

Per input, an LED clearly indicates the status of the input. Depending on the configuration the LED is green, red or off.

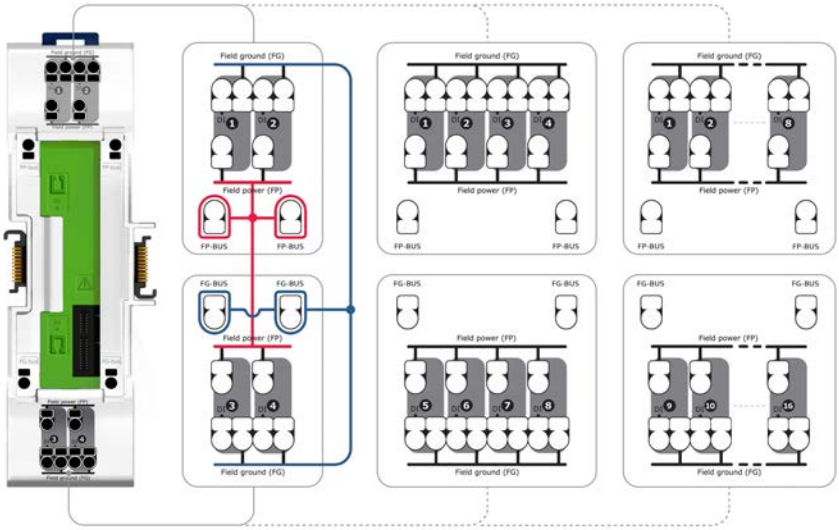
LED for status of module

The LED shows the status of the module. The LED is on continuously when the module is working correctly. If not, the LED flashes or the LED is off.

LED details

Details about statuses and indications of modules, input and/or outputs and the related LED colours and flashing patterns, are described in the *LEDs and Priva Blue ID Lifeline* appendix of the *Installing and commissioning* manual.

Connections



Legend

DI	digital input
Field power (FP)	power supply for active sensors
Field ground (FG)	neutral for input and power supply

DI module specifications

General			
Module article description	Priva Blue ID S-Line DI4 Digital input module	Priva Blue ID S-Line DI8 Digital input module	Priva Blue ID S-Line DI16 Digital input module
Module article number	5070001 (V04:01 and higher)	5070002 (V04:01 and higher)	5070003 (V04:01 and higher)
Base article description	Priva Blue ID S-Line DI4 Digital input base	Priva Blue ID S-Line DI8 Digital input base	Priva Blue ID S-Line DI16 Digital input base
Base article number	5070101 (V03:00 and higher)	5070102 (V03:00 and higher)	5070103 (V03:00 and higher)
Number of digital inputs	4	8	16
Dimensions (XYZ)[1]	161.5 x 46 x 100.2 mm (6.36 x 1.81 x 3.94 inches)	161.5 x 61 x 100.2 mm (6.36 x 2.40 x 3.94 inches)	161.5 x 92.2 x 100.2 mm (6.36 x 3.63 x 3.94 inches)
Weight	module: 140 grams base: 140 grams	module: 150 grams base: 160 grams	module: 200 grams base: 280 grams
Maximum power consumption	2.9 W	3.6 W	4.4 W
Typical power dissipation[2]	2.3 W	2.6 W	2.8 W
MTBF[3]	module: 790,000 hours base: 8,760,000 hours	module: 790,000 hours base: 8,760,000 hours	module: 790,000 hours base: 8,760,000 hours
Construction	removable module on a base		
Mounting of base	clicks onto DIN rail		
Material	mixture of polycarbonate and ABS		
Connector type for power supply and I/O	terminal block		
Permitted core cross section area	solid: 0.2 ... 4 mm² flexible: ... 2.5 mm² flexible with ferrule connector: 0.25 ... 1.5 mm²		
Identification of connections	abbreviated labelling		

[1] Excluding 1.1 mm room between the modules

[2] Dissipation under the following conditions:
- I/O load of 50%
- Energy saving mode on (LEDs off)

[3] The MTBF is calculated according to the *Telcordia SR-332 standard Issue 2* under the following conditions:
- ambient temperature: 35 ... 50 °C
- supply voltage: 24 VDC
- time in operation per day: 24 hours
- reliability level: 60 %


Y
Z
X
Field ground (FG)
1.
2.
3.
4.
1. Airconditioning 2nd Floor 2.02
2. Main Heating 4.008m
3. Pump no. 2.006 Ventilation
4. Air ventilation building B 3.55 A
DI4
Field ground (FG)

Digital inputs	Alternating current	Direct current
Input voltage measurement range	0 ... 30 VAC	0 ... 30 VDC
Maximum permitted input voltage	0 ... 30 VAC	-30 ... 30 VDC
Type of measurement	pulse and status	pulse and status
Minimum detectable pulse width (Live contact)	500 ms (Mechanical switch)	10 ms (Mechanical switch)
	500 ms (Electronic switch)	350 µs (Electronic switch)
Minimum detectable pulse width (Dry / open collector)	-	10 ms (Mechanical switch)
		350 µs (Electronic switch)
Maximum input frequency (Live contact, 50% duty cycle)	-	50 Hz (Mechanical switch)
		1,400 Hz (Electronic switch)
Maximum input frequency (Dry / open collector, 50% duty cycle)	-	50 Hz (Mechanical switch)
		1,400 Hz (Electronic switch)
Maximum input voltage for low	3 VAC	3 VDC
Minimum input voltage for high	12 VAC	12 VDC
Input resistor with pull-up resistor disabled	24 kΩ nominal for positive voltages 19 kΩ nominal for negative voltages	
Input current with pull-up resistor enabled	-5 mA nominal	
Functional isolation of inputs in relation to system neutral	240 VDC 240 VAC	
FG isolated from system neutral, galvanic isolation	yes	
Total maximum load current FP connections	750 mA	
FP-FG protection	protected against short circuits and overload with internal common fuse for all inputs	
Input voltage between FP bus and FG bus	0 ... 30 VAC 0 ... 30 VDC	
Field power supply	double insulation between input and output	
Maximum FP bus and FG bus current	FP bus in - FP bus out: 10 A FG bus in - FG bus out: 10 A	
Signalling	• Priva Blue ID Lifeline • green-red LEDs for status of inputs (colour is adjustable) • green LED for status of module	

General specifications of controllers, modules and bases

Housing	
IP code	IP30 (IEC 60529)
Flammability class	V-0 (UL 94)
Recycle code	7
Colour	release surfaces of module and DIN rail release: blue (RAL5013) other parts: white (RAL9003)
Device type	open device, for use in a pollution degree 2 environment

Installation and connection	
Installation	in control panel: • accessible to authorized personnel only • can be clicked onto the DIN rail that is positioned horizontally or vertically on the mounting plate Note: The controller, SC module and SN module may only be mounted horizontally. in panel door integration in control panel: • accessible to authorized personnel only • can be clicked onto the DIN rail that is positioned horizontally on the mounting plate
DIN-rail type	35 x 7.5 mm (height x depth), in accordance with IEC 60715
Maximum width of I/O modules, bus extension modules and controller	20 m

Environment	
Permitted temperature inside control cabinet during normal operation with horizontally mounted modules only (without airflow)	0 ... 50 °C
Permitted temperature inside control cabinet during normal operation with vertically mounted modules only (without airflow)	0 ... 35 °C
Permitted temperature during transport and storage	-20 ... 70 °C
Permitted relative ambient humidity	10 % ... 95 % (non-condensing)
Shock and vibration resistance	IEC 61131-2
Installation category	II

Legislation and standards		
Canada / USA		• UL 508:2005 (industrial control equipment) • UL 916:2007 (energy management equipment) • UL 61010-1:2004 (measurement and control equipment) • CSA C22.2 No 14-10: 2011 (industrial control equipment) • CSA C22.2 No 205-12: 2012 (signal equipment) • CSA C22.2 No 61010-1-04 (measurement and control equipment)
	EMC	• complies with 47 CFR Part 15 Subpart B, Class B (FCC Rules) Operation is subject to the following two conditions: 1. This system may not cause harmful interference. 2. This system must accept any interference received, including interference that may cause undesired operation. • ISM-system, complies with Canadian ICES-001
Europe		• Low voltage directive 2006/95/CE: • EN 61010-1:2010 (measurement and control equipment) • EMC directive 2004/108/EC: • EN 61326-1:2006 (measurement and control equipment) • EN 61000-6-2:2005 (generic immunity standard) • EN 61000-6-3:2007 (generic emission standard) • RoHS directive 2011/65/EU
		complies with the WEEE directive 2002/96/EC
International		• The Priva Blue ID S-Line S10 Controller is BTL registered at BACnet International. • The Priva Blue ID S-Line S10 Controller is BACnet certified in accordance with ISO 16484-5/6. • Priva is a member of the BACnet Interest Group Europe.

Priva (head office)
Zijlweg 3
2678 LC De Lier
The Netherlands

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