

## Technical Data

Original Instructions



**Allen-Bradley**

by ROCKWELL AUTOMATION

# 1718 Ex I/O

Communication Adapter Catalog Number 1718-AENTR

I/O Module Catalog Numbers 1718-IJ, 1718-OB2, 1718-OB2L, 1718-IBN8, 1718-IBN8B, 1718-IT4B, 1718-IR4B, 1718-IF4HB, 1718-CF4H

Power Supply Catalog Number 1718-PSDC

Chassis Catalog Numbers 1718-A20, 1718-A10

Connection Cable Catalog Number 1718-CBL3

Placeholder Module Catalog Number 1718-ARM

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# Available 1718 Ex I/O Products

## 1718 Ex I/O Product Features

Type	Function	Features
<b>Communication Adapter</b>		
1718-AENTR	The EtherNet/IP™ adapter forms the interface between the I/O modules on the chassis and the process control system. Through this interface signals from NAMUR sensors, mechanical contacts, high-power solenoid drivers, power relays, sounders, and alarm LEDs are transported to the higher-level bus system.	<ul style="list-style-type: none"> <li>• Communication through EtherNet/IP</li> <li>• Installation in suitable enclosures in Zone 1</li> <li>• HART communication through EtherNet/IP</li> <li>• Interface between the I/O modules and the PCS/PLC</li> </ul>
<b>Digital Input</b>		
1718-IJ	The device accepts digital input signals of NAMUR sensors or mechanical contacts from the hazardous area.	<ul style="list-style-type: none"> <li>• Inputs Ex ia</li> <li>• Installation in suitable enclosures in Zone 1</li> <li>• Module can be removed and inserted under power (RIUP)</li> <li>• Line fault detection (LFD)</li> <li>• Permanently self-monitoring</li> <li>• 1-channel (<b>1718-IJ</b>); 8-channel (<b>1718-IBN8B</b>, <b>1718-IBN8</b>)</li> <li>• Input for frequency, counter, direction of rotation (<b>1718-IJ</b>)</li> <li>• Digital input max. 15 kHz (<b>1718-IJ</b>)</li> <li>• Dry contact or NAMUR inputs (<b>1718-IJ</b>, <b>1718-IBN8</b>, <b>1718-IBN8B</b>)</li> </ul>
1718-IBN8B	Open and short-circuit line faults are detected.	
1718-IBN8	The inputs are galvanically isolated from the bus and the power supply (EN 60079-11).	
<b>Analog Input</b>		
1718-IF4HB	The transmitter power supply feeds 2 and 3-wire transmitters. Active signals from separately powered field devices and 4-wire transmitters can be connected. Open and short-circuit line faults are detected. The intrinsically safe inputs are galvanically isolated from the bus and the power supply.	<ul style="list-style-type: none"> <li>• 4-channel</li> <li>• Inputs Ex ia</li> <li>• Installation in suitable enclosures in Zone 1</li> <li>• Module can be removed and inserted under power (RIUP)</li> <li>• Line fault detection (LFD)</li> <li>• Permanently self-monitoring</li> <li>• Power supply for 2-wire transmitters with 4...20 mA (<b>1718-IF4HB</b>)</li> <li>• Supply circuit 15V (20 mA) (<b>1718-IF4HB</b>)</li> <li>• Input from active signals of 4-wire transmitters (<b>1718-IF4HB</b>)</li> <li>• HART communication through field bus (<b>1718-IF4HB</b>)</li> <li>• Converter for 2, 3, and 4-wire RTDs (Pt100...Pt1000), slide wire sensors, and so on (<b>1718-IR4B</b>)</li> <li>• Converter for thermocouples and mV-signals (<b>1718-IT4B</b>)</li> </ul>
1718-IR4B	The RTD converter accepts 2, 3, or 4-wire RTD signals (Pt100...Pt1000) and slide-wire sensors from the field. Ni100 through Ni1000 can also be connected. Open and short-circuit line faults are detected. The intrinsically safe inputs are galvanically isolated from the bus and the power supply.	
1718-IT4B	The thermocouple converter accepts thermocouple or mV signals from the field. Open circuit line fault alarms are detected. The inputs are galvanically isolated from the bus and the power supply (EN 60079-11). There is a functional isolation between the channels.	
<b>Configurable Analog Input/Output</b>		
1718-CF4H	The device is a configurable universal module. Each channel can operate in the following modes: <ul style="list-style-type: none"> <li>• As an analog input (AI) it feeds 2-wire transmitters.</li> <li>• As an analog output (AO) it can drive proportional valves, I/P converters, or local indicators.</li> </ul> The intrinsically safe signals are galvanically isolated from the bus and the power supply.	<ul style="list-style-type: none"> <li>• 4-channel</li> <li>• Inputs Ex ia, Outputs Ex ia</li> <li>• Installation in suitable enclosures in Zone 1</li> <li>• Module can be removed and inserted under power (RIUP)</li> <li>• Analog input, analog output</li> <li>• Supply circuit 21.5V (4 mA)</li> <li>• HART communication through field bus</li> <li>• Line fault detection (LFD): one LED per channel</li> <li>• Permanently self-monitoring</li> </ul>

## 1718 Ex I/O Product Features

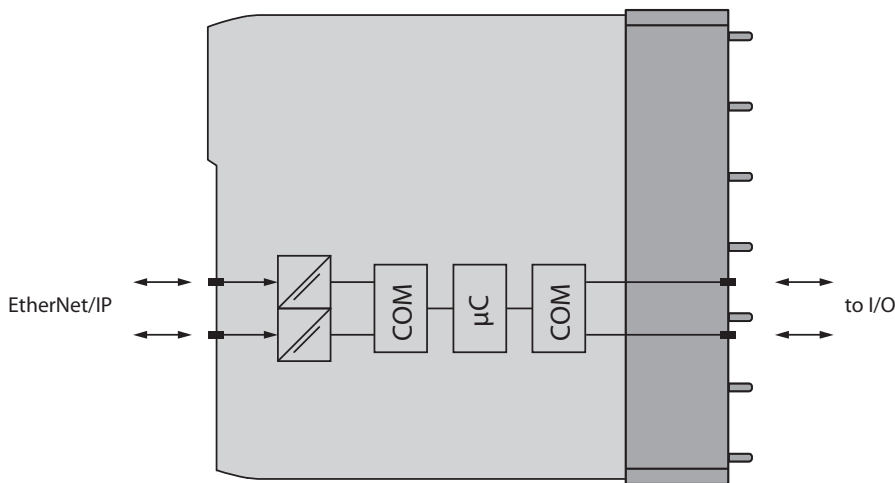
Type	Function	Features												
<b>Digital Output</b>														
1718-OB2 1718-OB2L	The digital output features 2 independent channels. The device can be used to drive solenoids, sounders, or LEDs. Open and short-circuit line faults are detected. The outputs are galvanically isolated from the bus and the power supply. The output can be switched off through a contact. This can be used for bus-independent safety applications.	<ul style="list-style-type: none"> <li>• Outputs Ex ia</li> <li>• Installation in suitable enclosures in Zone 1</li> <li>• 2-channel</li> <li>• Module can be removed and inserted under power (RIUP)</li> <li>• Line fault detection (LFD)</li> <li>• Permanently self-monitoring</li> <li>• Output with bus-independent safety shutdown input</li> </ul>												
<b>Power Supply</b>														
1718-PSDC	The power supply provides power for the I/O modules and adapters that are mounted on the chassis. Power supplies can be connected in parallel to achieve redundancy. Input supply and output supply are galvanically isolated from each other (EN 61010-1).	<ul style="list-style-type: none"> <li>• Power supply for 24V DC</li> <li>• Suitable for supplying 1 adapter and up to 20 I/O modules, depending on individual power consumption of the modules</li> <li>• Installation in suitable enclosures in Zone 1</li> <li>• Module can be removed and inserted under power (RIUP)</li> <li>• Use two power supplies for redundancy</li> </ul>												
<b>Chassis</b>														
1718-A20 1718-A10	Chassis are used to hold adapters, power supplies, and I/O modules. Fixed slots are reserved on the chassis for adapters and power supplies. Slots for I/O modules have equal status; functions can be arranged in any sequence, as required.	<ul style="list-style-type: none"> <li>• Max. 20 slots for I/O modules (<b>1718-A20</b>); Max. 10 slots for I/O modules (<b>1718-A10</b>);</li> <li>• Redundancy (power supply)</li> <li>• Installation in suitable enclosures in Zone 1</li> </ul>												
Chassis combinations	<table border="1"> <thead> <tr> <th></th> <th colspan="2">Extension</th> </tr> <tr> <th>Base</th> <th>1718-A10</th> <th>1718-A20</th> </tr> </thead> <tbody> <tr> <td>1718-A10</td> <td>–</td> <td>–</td> </tr> <tr> <td>1718-A20</td> <td>X</td> <td>X</td> </tr> </tbody> </table>			Extension		Base	1718-A10	1718-A20	1718-A10	–	–	1718-A20	X	X
	Extension													
Base	1718-A10	1718-A20												
1718-A10	–	–												
1718-A20	X	X												
<b>Connection Cable</b>														
1718-CBL3	1718-CBL3 chassis cordsets, for base chassis to extension chassis.	<ul style="list-style-type: none"> <li>• For connection of base and extension chassis</li> </ul>												
<b>Placeholder</b>														
1718-ARM	Placeholder modules are used to cover empty slots on the chassis and fix unused field wiring, if needed. This module does not reserve an address. This module can be placed in any sequence on the chassis.	<ul style="list-style-type: none"> <li>• Placeholder module</li> <li>• Installation in suitable enclosures in Zone 1</li> <li>• Module can be removed and inserted under power (RIUP)</li> </ul>												

1718 Ex I/O Modules

Type	Catalog Number	Description	Page
Communication Adapter	1718-AENTR	Ex I/O EtherNet/IP Adapter	4
Digital Input	1718-IJ	Ex I/O Frequency/Counter Input	8
	1718-IBN8B	Ex I/O 8 Point Digital Input NAMUR Wide	
	1718-IBN8	Ex I/O 8 Point Digital Input NAMUR	9
Analog Input	1718-IF4HB	Ex I/O 4 Channel HART Analog Input Wide	11
	1718-IR4B	Ex I/O 4 Channel RTD Input Wide	
	1718-IT4B	Ex I/O 4 Channel Thermocouple Input Wide	
Configurable Analog Input/Output	1718-CF4H	Ex I/O 4 Channel HART Analog Configurable	17
Digital Output	1718-OB2	Ex I/O 2 Point Digital Output 23V	21
	1718-OB2L	Ex I/O 2 Point Digital Output 16.5V	
Power Supply	1718-PSDC	Ex I/O DC Power Supply	24
Chassis	1718-A20	Ex I/O 20 Slot Chassis	26
	1718-A10	Ex I/O 10 Slot Chassis	
Connection Cable	1718-CBL3	Ex I/O Chassis Connection Cable 3 m (9.84 ft.)	28
Placeholder	1718-ARM	Ex I/O Empty Slot Cover	29

1718 Ex I/O Communication Adapter

1718-AENTR Ex I/O EtherNet/IP Adapter - Connection



Zone 1


Technical Specifications

Attribute	1718-AENTR	
<b>Supply</b>		
Connection	Chassis bus	
Nominal voltage	$U_n$	12V DC, use only with the power supply module 1718-PSDC
Maximum safe voltage	$U_m$	60V DC (SELV/PELV)

**Technical Specifications**

<b>Attribute</b>	<b>1718-AENTR</b>
Power dissipation	4.4 W
Power consumption	4.4 W
<b>Fieldbus interface</b>	
Fieldbus type	EtherNet/IP
<b>Ethernet interface</b>	
Connection type	M12, through front connector
Transfer rate	10BASE-T, 100BASE-TX 100 Mbit/s
Station connection	Directly to PCS or PLC or through hubs or switches
Cable type	SFTP in accordance with ISO/IEC 11801 for Cat 5e or better
Bus length	≤ 100 m (≤ 328 ft) per link
Addressing	DHCP or fixed IP address
Ethernet address	IP V4 address (default setting: 0.0.0.0, auto IP, DHCP)
HART Communication	Through Ethernet
<b>Internal bus</b>	
Connection	Chassis bus
<b>Galvanic isolation</b>	
Ethernet/other circuits	basic insulation according to IEC/EN 61010-1, rated insulation voltage 32V DC (SELV/PELV)
Insulation voltage	1500V AC according to IEEE 802.3u
<b>Electrical isolation</b>	
Power supply, internal bus/other circuits	basic insulation according to IEC/EN 61010-1, rated insulation voltage 30V DC

**Technical Specifications**

<b>Attribute</b>	<b>1718-AENTR</b>
<b>Indicators/settings</b>	
Status indicator	<ul style="list-style-type: none"> <li>LED green (power supply): Solid green = operating; fast flashing = boot up or power on self test</li> <li>LED red (collective alarm): Solid red = internal fault; flashing = no established connections or connection timeout</li> <li>LED yellow (operating mode): slow flashing = active, normal operation; fast flashing = active, simulation</li> </ul>
<b>Directive conformity</b>	
Electromagnetic compatibility Directive 2014/30/EU	EN 61326-1
<b>Conformity</b>	
Electromagnetic compatibility	NE 21
Degree of protection	IEC 60529
Fieldbus standard	IEEE 802.3
Environmental test	EN 60068-2-14
Shock resistance	EN 60068-2-27
Vibration resistance	EN 60068-2-6
Relative humidity	EN 60068-2-56
<b>Ambient conditions</b>	
Ambient temperature	-20...+60 °C (-4...+140 °F)
Storage temperature	-25...+85 °C (-13...+185 °F)
Relative humidity	95% noncondensing
Shock resistance	Shock type I, shock duration 11 ms, shock amplitude 15 g, number of shocks 18
Vibration resistance	Frequency range 10...150 Hz; transition frequency: 57.56 Hz, amplitude/acceleration $\pm 0.075$ mm/1 g; 10 cycles Frequency range 5...100 Hz; transition frequency: 13.2 Hz, amplitude/acceleration $\pm 1$ mm/0.7 g; 90 minutes at each resonance
<b>Mechanical specifications</b>	
Degree of protection	IP20 (module), a separate housing is required according to the system description
Connection	Through the chassis
Weight, approx	965 g (34.04 oz)
Dimensions	57 x 107 x 132 mm (2.2 x 4.2 x 5.2 in)
<b>Data for application in connection with hazardous areas</b>	
EU-Type Examination Certificate Marking	PTB 19 ATEX 2007 U  II 2G Ex db eb ib q IIC Gb
Directive conformity Directive 2014/34/EU	EN IEC 60079-0:2018 EN 60079-1:2014 EN 60079-5:2015 EN 60079-7:2015 EN 60079-11:2011
<b>International approvals</b>	
ATEX approval	PTB 19 ATEX 2007 U
IECEx approval Approved for	IECEx PTB 19.0025U Ex db eb ib q IIC Gb

**Technical Specifications**

<b>Attribute</b>	<b>1718-AENTR</b>
<b>General Information</b>	
System information	The module may be installed only in the associated chassis 1718-Ax in Zone 1, 2, 21, 22, or outside the hazardous area. The corresponding declaration of conformity has to be observed. For use in hazardous areas (for example, Zone 1, 2, 21, or 22) the module must be installed in an appropriate enclosure.
Supplementary information	EC-Type Examination Certificate, Statement of Conformity, Declaration of Conformity, Attestation of Conformity and instructions have to be observed where applicable. For certification information and links to control drawings with complete entity parameter details, see the 1718 Certification Bulletin, publication <a href="#">1718-CT001</a> .

# 1718 Ex I/O Digital Input

Figure 1 - 1718-IJ Ex I/O Frequency Counter – Connection

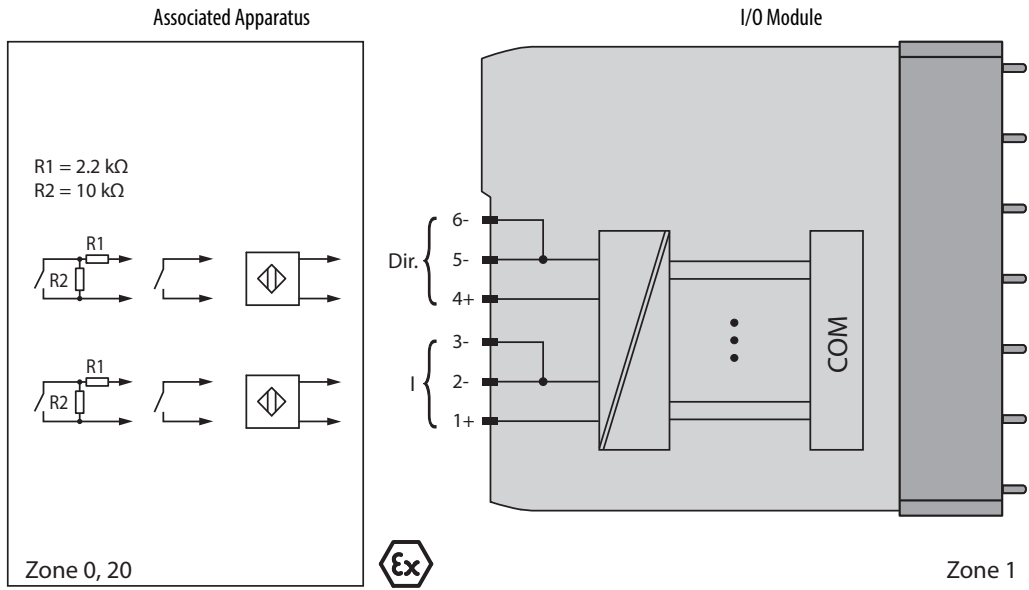


Figure 2 - 1718-IBN8B Ex I/O 8 Point Digital Input NAMUR-Wide – Connection

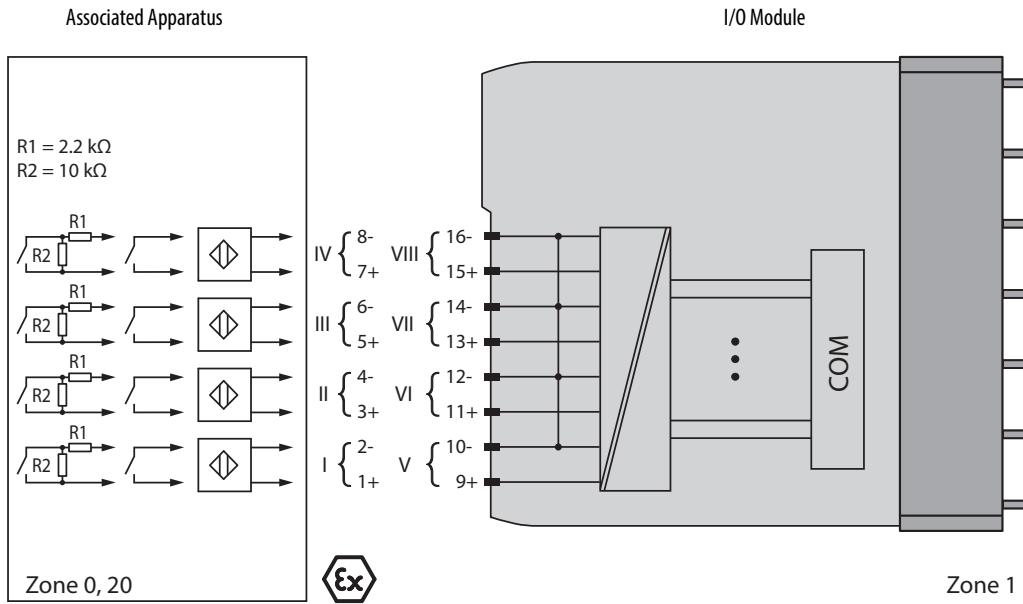
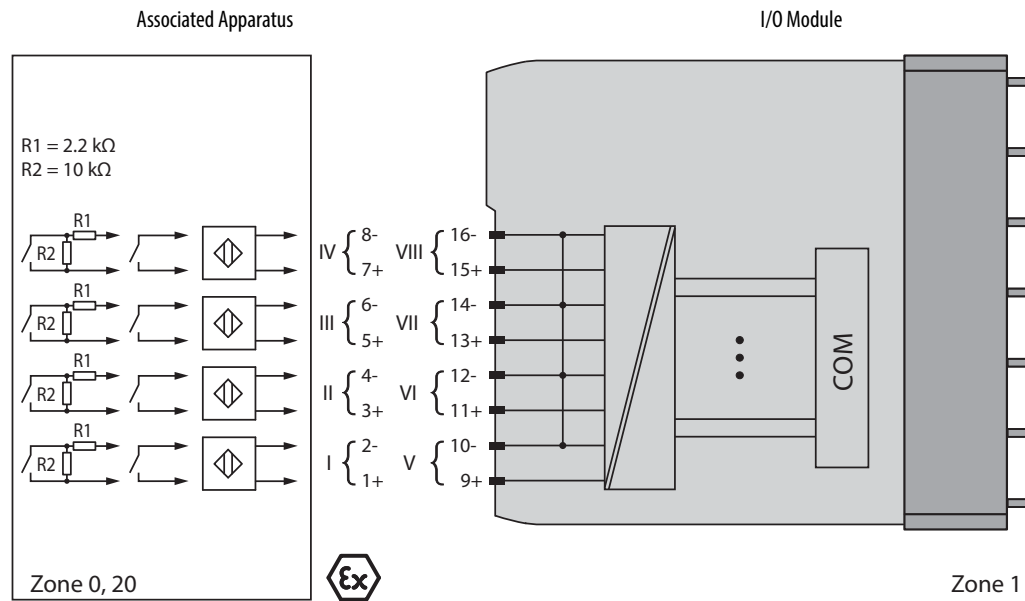




Figure 3 - 1718-IBN8 Ex I/O 8 Point Digital Input NAMUR – Connection



### Technical Specifications

Attribute	1718-IJ	1718-IBN8B	1718-IBN8
<b>Slots</b>			
Occupied slots	1	2	1
<b>Supply</b>			
Connection	Chassis bus		
Rated voltage	$U_r$	Use only with the power supply 1718-PSDC	
Power consumption	0.7 W	1.0 W	1.5 W
Power dissipation	0.7 W	1.0 W	1.5 W
<b>Internal bus</b>			
Connection	Chassis bus		
Interface	Manufacturer-specific bus to standard adapter		
<b>Digital input</b>			
Number of channels	1	8	
Function	Counter, frequency, direction of rotation	–	
Suitable interface Connections			
NAMUR sensor, volt-free contact			
Connection	channel I: 1+, 2-; direction: 4+, 5-	channel I: 1+, 2-; channel II: 3+, 4-; channel III: 5+, 6-; channel IV: 7+, 8-; channel V: 9+, 10-; channel VI: 11+, 12-; channel VII: 13+, 14-; channel VIII: 15+, 16-	Terminals 1+, 2-, 3+, 4-, 5+, 6-, 7+, 8-, 9+, 10- , 11+, 12-, 13+, 14-, 15+, 16-
Rated values	According to EN 60947-5-6 (NAMUR)		
Switching point/switching hysteresis	1.2...2.1 mA / ± 0.2 mA		
<b>Internal resistor</b>			
Internal resistor	$R_i$	1 kΩ	
Line fault detection	Can be switched on/off for each channel through the Add-on Profile		

## Technical Specifications

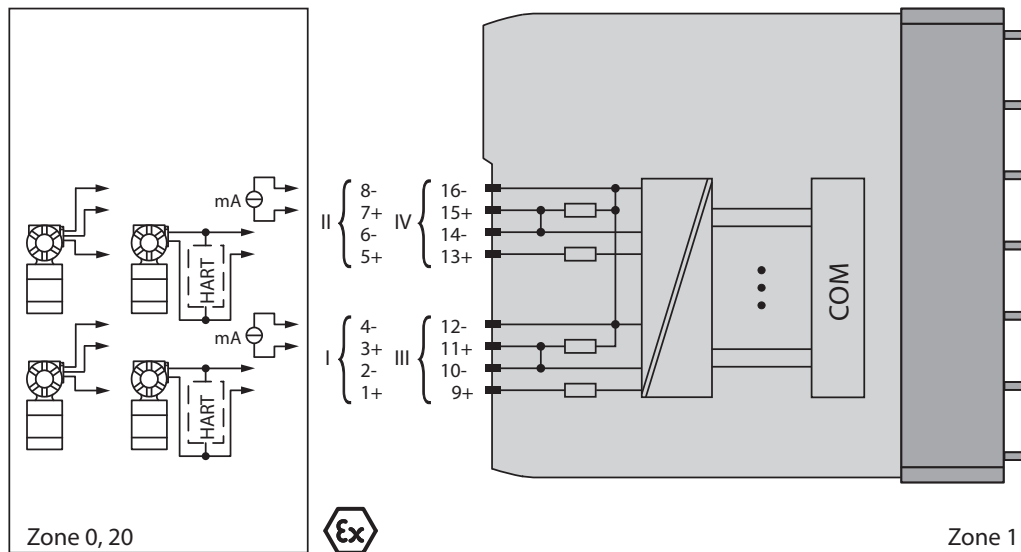
Attribute	1718-IJ	1718-IBN8B	1718-IBN8
Connection	mechanical switch with additional resistors (see connection diagram) proximity switches without additional wiring		
Short-circuit	< 360 Ω		
Open-circuit	< 0.35 mA		
Minimum pulse duration	in frequency + counter mode: 12.5 ms; otherwise 20 μs	1 ms	15 ms
Operating frequency	0...15 kHz in frequency mode 0...40 Hz in frequency + counter mode	–	
<b>Indicators/settings</b>			
Status indicator	Green power supply: supply Red: line fault		Green: supply Red: line fault, per channel
Coding	Optional mechanical coding through front socket		
<b>Directive conformity</b>			
Electromagnetic compatibility Directive 2014/30/EU	EN 61326-1		
<b>Conformity</b>			
Electromagnetic compatibility	NE 21		
Degree of protection	IEC 60529		
Environmental test	EN 60068-2-14		
Shock resistance	EN 60068-2-27		
Vibration resistance	EN 60068-2-6		
Relative humidity	EN 60068-2-56		
<b>Ambient conditions</b>			
Ambient temperature	-20...+60 °C (-4...+140 °F)		
Storage temperature	-25...+85 °C (-13...+185 °F)		
Relative humidity	95% noncondensing		
Shock resistance	Shock type I, shock duration 11 ms, shock amplitude 15 g, number of shocks 18		
Vibration resistance	Frequency range 10...150 Hz; transition frequency: 57.56 Hz, amplitude/acceleration ± 0.075 mm/1 g; 10 cycles Frequency range 5...100 Hz; transition frequency: 13.2 Hz amplitude/acceleration ± 1 mm/0.7 g; 90 minutes at each resonance		
<b>Mechanical specifications</b>			
Degree of protection	IP20 (module), a separate housing is required according to the system description		
Connection	Removable front connector with screw terminal (accessory) Wire connection for all terminals: 0.14...1.5 mm <sup>2</sup> (26...16 AWG)		Removable front connector (accessory) Wiring connection by spring terminal only: 0.14...0.5 mm <sup>2</sup> (26...20 AWG)
Weight, approx	420 g (14.82 oz)	940 g (33.16 oz)	420 g (14.82 oz)
Dimensions	28 x 107 x 132 mm (1.1 x 4.2 x 5.2 in.)	57 x 107 x 132 mm (2.2 x 4.2 x 5.2 in.)	28 x 107 x 132 mm (1.1 x 4.2 x 5.2 in.)
<b>Data for application in connection with hazardous area</b>			
EU-Type Examination Certificate Marking	Presafe 19 ATEX 14058 U ⊕ II 2(1)G Ex db eb q [ia Ga] IIC Gb II (1)D [Ex ia Da] IIIC I (M1) [Ex ia Ma] I		Presafe 19 ATEX 14055 U ⊕ II 2(1)G Ex db eb q [ia Ga] IIC Gb II (1)D [Ex ia Da] IIIC I (M1) [Ex ia Ma] I
Input			
Voltage	U <sub>0</sub> 10.5V	14.9V	10V
Current	I <sub>0</sub> 23.34 mA	15.7 mA	13 mA
Power	P <sub>0</sub> 61.27 mW (linear characteristic)	58.2 mW (linear characteristic)	33 mW (linear characteristic)
Electrical/Galvanic isolation Input/power supply, internal bus	Safe electrical isolation according to EN 60079-11, voltage peak value 375V		

**Technical Specifications**

Attribute	1718-IJ	1718-IBN8B	1718-IBN8
Directive conformity Directive 2014/34/EU	EN 60079-0:2012+A11:2013 EN 60079-1:2014 EN 60079-5:2015 EN 60079-7:2015 EN 60079-11:2012		EN 60079-0:2012 + A11:2013 EN 60079-11:2012 EN 60079-1:2014 EN 60079-5:2015 EN 60079-7:2015
<b>International approvals</b>			
ATEX approval	Presafe 19 ATEX 14058U		Presafe 19 ATEX 14055U
IECEX approval Approved for	IECEX PRE 19.0013U Ex db eb q [ia Ga] IIC Gb [Ex ia Da] IIIC [Ex ia Ma] I		IECEX PRE 19.0010U Ex db eb q [ia Ga] IIC Gb [Ex ia Da] IIIC [Ex ia Ma] I
<b>General Information</b>			
System information	The module may be installed only in the associated chassis 1718-Ax in Zone 1, 2, 21, 22, or outside the hazardous area. The corresponding declaration of conformity has to be observed. For use in hazardous areas (for example, Zone 1, 2, 21, or 22) the module must be installed in an appropriate enclosure.		
Supplementary information	EC-Type Examination Certificate, Statement of Conformity, Declaration of Conformity, Attestation of Conformity and instructions have to be observed where applicable. For certification information and links to control drawings with complete entity parameter details, see the 1718 Certification Bulletin, publication <a href="#">1718-CT001</a> .		

**1718 Ex I/O Analog Input**

**Figure 4 - 1718-IF4HB Ex I/O 4 Channel HART Analog Input Wide - Connection**



**Technical Specifications**

Attribute	1718-IF4HB
<b>Slots</b>	
Occupied slots	2
<b>Supply</b>	
Connection	Chassis bus

## Technical Specifications

Attribute	1718-IF4HB
Rated voltage $U_n$	Use only with the power supply 1718-PSDC
Power dissipation	2.0 W
Power consumption	3.0 W
<b>Internal bus</b>	
Connection	Chassis bus
Interface	Manufacturer-specific bus to standard adapter
<b>Analog input</b>	
Number of channels	4
Suitable field devices	pressure converter, flow converter, level converter, temperature converter
<b>Field device interface</b>	
Connection	<p><b>2-wire transmitter (HART):</b> Supply circuit: channel I 1+, 2-, channel II 5+, 6-, channel III 9+, 10-, channel IV 13+, 14-</p> <p><b>3-wire transmitter:</b> Supply circuit: channel I 1+, 4-, channel II 5+, 8-, channel III 9+, 12-, channel IV 13+, 16-</p> <p>Measurement loop: channel I 3+, 4-, channel II 7+, 8-, channel III 11+, 12-, channel IV 15+, 16-</p> <p><b>4-wire transmitter (powered externally):</b> Measurement loop: channel I 3+, 4-, channel II 7+, 8-, channel III 11+, 12-, channel IV 15+, 16-</p>
Transmitter supply voltage	$\geq 15V$ at 20 mA; 21.5V at 4 mA
Input resistance	15 $\Omega$
Line fault detection	Can be switched on/off for each channel through the Add-on Profile, configurable through the Add-on Profile
Short-circuit	> 21 mA
Open-circuit	< 1 mA
<b>Transfer characteristics</b>	
Deviation	
After calibration	0.1% of the signal range at 20 °C (68 °F)
Influence of ambient temperature	0.1%/10 K of the signal range
Resolution	12 Bit (0...26 mA)
Refresh time	100 ms
<b>Indicators/settings</b>	
Status indicator	<p>Power status indicator (P) green: supply</p> <p>Diagnostic status indicator (I) solid red: module fault, flashing red: communication error, solid white: fixed parameter set (parameters from the adapter are ignored), flashing white: requests parameters from the adapter</p> <p>Status indicator (1...4) solid red: line fault (lead breakage or short-circuit)</p>
Coding	Optional mechanical coding through front socket
<b>Directive conformity</b>	
Electromagnetic compatibility Directive 2014/30/EU	EN 61326-1:2006
<b>Conformity</b>	
Electromagnetic compatibility	NE 21:2007
Degree of protection	IEC 60529:2000
Environmental test	EN 60068-2-14:2009
Shock resistance	EN 60068-2-27:2009
Vibration resistance	EN 60068-2-6:2008
Relative humidity	EN 60068-2-78:2001

## Technical Specifications

Attribute	1718-IF4HB
<b>Ambient conditions</b>	
Ambient temperature	-20...+60 °C (-4...+140 °F)
Storage temperature	-25...+85 °C (-13...+185 °F)
Relative humidity	95% noncondensing
Shock resistance	shock type I, shock duration 11 ms, shock amplitude 15 g, number of shocks 18
Vibration resistance	frequency range 10...150 Hz; transition frequency: 57.56 Hz, amplitude/acceleration $\pm 0.075$ mm/1 g; 10 cycles frequency range 5...100 Hz; transition frequency: 13.2 Hz amplitude/acceleration $\pm 1$ mm/0.7 g; 90 minutes at each resonance
<b>Mechanical specifications</b>	
Degree of protection	IP20 (module), a separate housing is required according to the system description
Connection	Removable front connector with screw terminal (accessory) Wire connection by spring terminals: 0.14...1.5 mm <sup>2</sup> (26...16 AWG) Wire connection by screw terminals: 0.08...1.5 mm <sup>2</sup> (28...16 AWG)
Weight, approx	955 g (33.7 oz)
Dimensions	57 x 107 x 132 mm (2.2 x 4.2 x 5.2 in.)

## Data for application in connection with hazardous areas

EU-Type Examination Certificate Marking	Presafe 19 ATEX 14056 U ⊕ II 2(1)G Ex db eb q [ia Ga] IIC Gb II (1)D [Ex ia Da] IIIC I (M1) [Ex ia Ma] I
Supply	
Voltage	U <sub>0</sub> 27V
Current	I <sub>0</sub> 90 mA
Power	P <sub>0</sub> 588 mW (linear characteristic)
Input	
Voltage	U <sub>0</sub> 0.7V
Current	I <sub>0</sub> 2.78 mA
Power	P <sub>0</sub> 2 mW (trapezoid characteristic curve)
Internal capacitance	C <sub>i</sub> 242 nF
Power	L <sub>i</sub> 0 mH
Galvanic/Electrical isolation Input/power supply, internal bus	Safe electrical isolation according to EN 60079-11, voltage peak value 375V
Directive conformity Directive 2014/34/EU	EN 60079-0:2012+A11:2013 EN 60079-1:2014 EN 60079-5:2015 EN 60079-7:2015 EN 60079-11:2012
<b>International approvals</b>	
ATEX approval	Presafe 19 ATEX 14056 U
IECEx approval Approved for	IECEx PRE 19.0011U Ex db eb q [ia Ga] IIC Gb [Ex ia Da] IIIC [Ex ia Ma] I

Technical Specifications

<b>Attribute</b>	<b>1718-IF4HB</b>
<b>General Information</b>	
System information	The module may be installed only in the associated chassis 1718-Ax in Zone 1, 2, 21, 22, or outside the hazardous area. The corresponding declaration of conformity has to be observed. For use in hazardous areas (for example, Zone 1, 2, 21, or 22) the module must be installed in an appropriate enclosure.
Supplementary information	EC-Type Examination Certificate, Statement of Conformity, Declaration of Conformity, Attestation of Conformity and instructions have to be observed where applicable. For certification information and links to control drawings with complete entity parameter details, see the 1718 Certification Bulletin, publication <a href="#">1718-CT001</a> .

Figure 5 - 1718-IR4B Ex I/O 4 Channel RTD Input - Connection

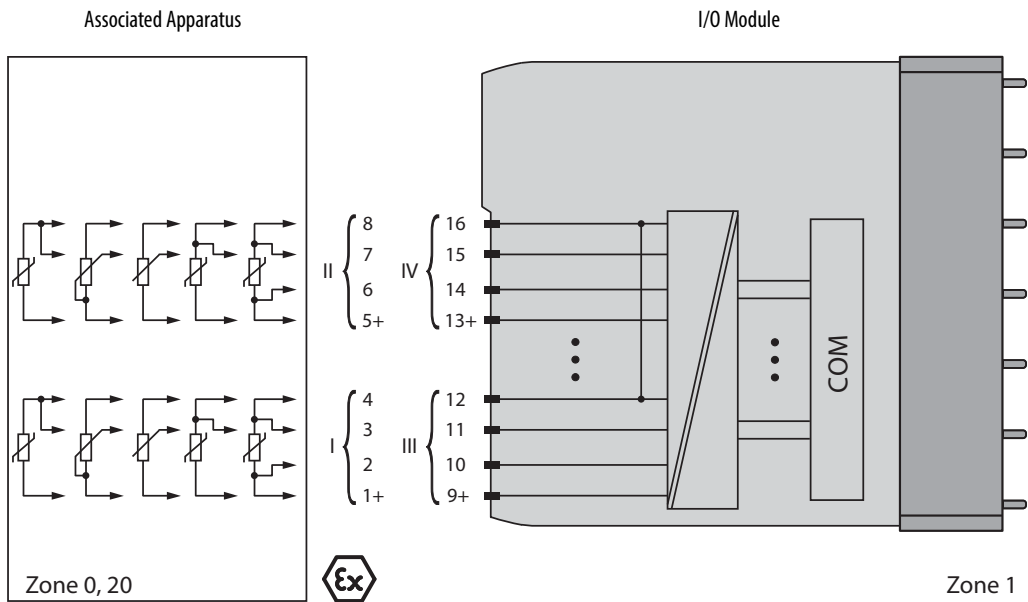
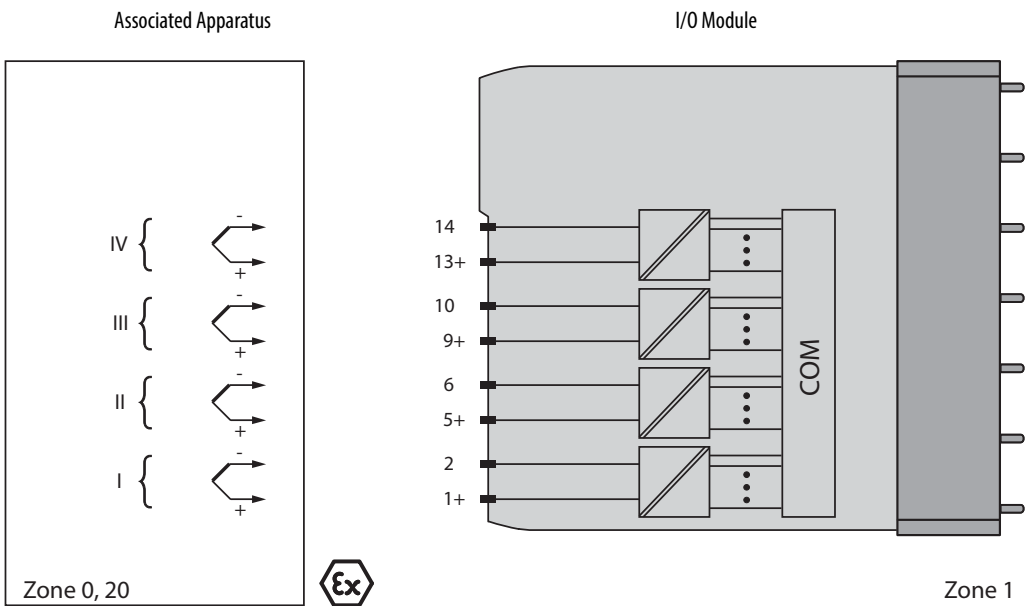


Figure 6 - 1718-IT4B Ex I/O 4 Channel Thermocouple Input - Connection



## Technical Specifications

Attribute	1718-IR4B	1718-IT4B
<b>Slots</b>		
Occupied slots	2	
<b>Supply</b>		
Connection	Chassis bus	
Rated voltage $U_r$	Use only with the power supply module 1718-PSDC	
Power consumption	0.4 W	0.9 W
Power dissipation	0.4 W	0.9 W
<b>Internal bus</b>		
Connection	Chassis bus	
Interface	Manufacturer-specific bus to standard adapter	
<b>Temperature input</b>		
Number of channels	4	
Suitable field devices	resistance thermometer, slide-wire sensors, potentiometer	Thermocouple, mV source
Suitable sensors Sensor	—	thermocouples U, B, E, T, K, S, R, L, J, N, Pallaplat, and mV sources
Field device interface	2-wire sensor, 3-wire sensor, 4-wire sensor	—
Connection	channel I: resistance/potentiometer input 1... 4 channel II: resistance/potentiometer input 5... 8 channel III: resistance/potentiometer input 9... 12 channel IV: resistance/potentiometer input 13... 16	channel I: 1+, 2-; channel II: 5+, 6-; channel III: 9+, 10-; channel IV: 13+, 14-
Measurement range	Pt100 (18...390 $\Omega$ ) (500 $\Omega$ including line resistance) Pt200 (37...780 $\Omega$ ) Pt500 (92...1952 $\Omega$ ) Pt1000 (185...3905 $\Omega$ ) Ni100 (69...270 $\Omega$ ) Ni500 (345...1350 $\Omega$ ) Ni1000 (690...2700 $\Omega$ )	-65...+75 mV with LFD, -75...+75 mV without LFD
Temperature coefficient	Pt100 – 385 Pt200 – 385 Pt500 – 385 Pt1000 – 385 Ni100 – 618 Ni500 – 618 Ni1000 – 618	—
Slide-wire sensor	0...10 k $\Omega$	—
Measuring current	200 $\mu$ A	—
Smallest span	50 $\Omega$ for 0.1% accuracy	5 mV for 0.1% accuracy
Linearity error	0.1%	
Conversion time	$\leq$ 500 ms (4 channels) $\leq$ 1 s (for 4x 3-wire Pt100)	$\leq$ 300 ms (4 channels) without LFD $\leq$ 600 ms (4-channel) with LFD
Compensation (reference junction CJC)	—	internal cold junction compensation
Busy after download	5...15 s	—
Lead resistance	$\leq$ 50 $\Omega$ per strand	—

## Technical Specifications

Attribute	1718-IR4B	1718-IT4B
Line fault detection	can be switched on/off for each channel through the Add-on Profile	can be switched on/off for each channel through the Add-on Profile
Short-circuit	< 10 $\Omega$	–
Open-circuit	> 1 $\Omega$	> 1 k $\Omega$
<b>Transfer characteristics</b>		
Deviation		
Influence of ambient temperature	max. 0.1%/10 K	
<b>Indicators/settings</b>		
LED indicator	Status indicator solid green: supply Status indicator solid red: line fault, collective alarm Status indicator flashing: communication error	
Coding	Optional mechanical coding through front socket	
<b>Directive conformity</b>		
Electromagnetic compatibility		
Directive 2014/30/EU	EN 61326-1	
<b>Conformity</b>		
Electromagnetic compatibility	NE 21	
Degree of protection	IEC 60529	
Environmental test	EN 60068-2-14	
Shock resistance	EN 60068-2-27	
Vibration resistance	EN 60068-2-6	
Relative humidity	EN 60068-2-56	
<b>Ambient conditions</b>		
Ambient temperature	-20...+60 °C (-4...+140 °F)	
Storage temperature	-25...+85 °C (-13...+185 °F)	
Relative humidity	95% non-condensing	
Shock resistance	shock type I, shock duration 11 ms, shock amplitude 15 g, number of shocks 18	
Vibration resistance	frequency range 10...150 Hz; transition frequency: 57.56 Hz, amplitude/acceleration $\pm$ 0.075 mm/1 g; 10 cycles frequency range 5...100 Hz; transition frequency: 13.2 Hz amplitude/acceleration $\pm$ 1 mm/0.7 g; 90 minutes at each resonance	
<b>Mechanical specifications</b>		
Degree of protection	IP20 (module), a separate housing is required according to the system description	
Connection	Removable front connector with screw terminal (accessory) Wiring connection by spring terminals: 0.14...1.5 mm <sup>2</sup> (26...16 AWG) Wiring connection by screw terminals: 0.08...1.5 mm <sup>2</sup> (28...16 AWG)	
Weight, approx	950 g (33.5 oz)	750 g (24.46 oz)
Dimensions	57 x 107 x 132 mm (2.2 x 4.2 x 5.2 in.)	
<b>Data for application in connection with hazardous areas</b>		
EU-Type Examination Certificate	Presafe 19 ATEX 14058 U	
Marking	⊕ II 2(1)G Ex db eb q [ia Ga] IIC Gb II (1)D [Ex ia Da] IIIC I (M1) [Ex ia Ma] I	
Input		
Voltage	U <sub>o</sub> 7.14V	1V
Current	I <sub>o</sub> 70 mA	71 mA
Power	P <sub>o</sub> 123 mW (linear characteristic)	62 mW (trapezoid characteristic curve)

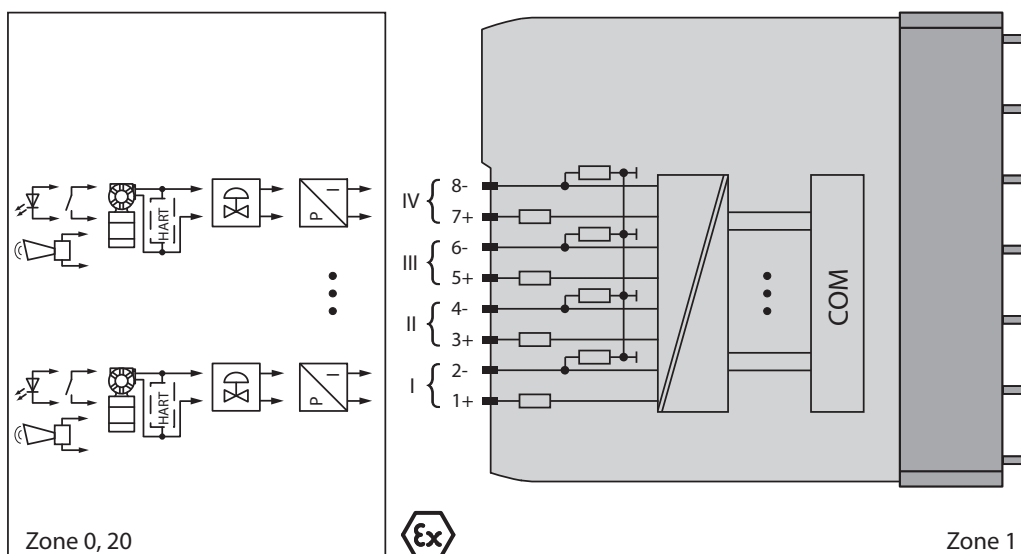


## Technical Specifications

Attribute	1718-IR4B	1718-IT4B
Galvanic/Electrical isolation Input/power supply, internal bus  Input/input	Safe electrical isolation according to EN 60079-11, voltage peak value 375V  –	safe electrical isolation according to EN 60079-11, voltage peak value 375V  functional insulation according to IEC 60664-1:2007, rated insulation voltage 50V, testing voltage 500V
Directive conformity Directive 2014/34/EU	EN 60079-0:2012+A11:2013 EN 60079-1:2014 EN 60079-5:2015 EN 60079-7:2015 EN 60079-11:2012	
<b>International approvals</b>		
ATEX approval	Presafe 19 ATEX 14058 U	
IECEX approval Approved for	IECEX PRE 19.0013U Ex db eb q [ia Ga] IIC Gb [Ex ia Da] IIIC [Ex ia Ma] I	
<b>General Information</b>		
System information	The module may be installed only in the associated chassis 1718-Ax in Zone 1, 2, 21, 22, or outside the hazardous area. The corresponding declaration of conformity has to be observed. For use in hazardous areas (for example, Zone 1, 2, 21, or 22) the module must be installed in an appropriate enclosure.	
Supplementary information	EC-Type Examination Certificate, Statement of Conformity, Declaration of Conformity, Attestation of Conformity and instructions have to be observed where applicable. For certification information and links to control drawings with complete entity parameter details, see the 1718 Certification Bulletin, publication <a href="#">1718-CT001</a> .	

## 1718 Ex I/O Universal Input/Output (HART)

### 1718-CF4H Ex I/O Universal Input/Output (HART) - Connection



## Technical Specifications

<b>Attribute</b>	<b>1718-CF4H</b>	
<b>Slots</b>		
Occupies slots	1	
<b>Supply</b>		
Connection	Chassis bus	
Rated voltage	$U_r$	Use only in connection with the power supply 1718-PSDC
Power dissipation	2.0 W	
Power consumption	3.0 W	
<b>Internal bus</b>		
Connection	Chassis bus	
Interface	Manufacturer-specific bus to standard adapter	
<b>Analog input</b>		
Number of channels	4	
Suitable field devices	pressure converter, flow converter, level converter, temperature converter	
Field device interface	2-wire transmitter	
Connection	terminals 1+, 2-; 3+, 4-; 5+, 6-; 7+, 8-	
Transmitter supply voltage	≥ 15V at 20 mA; 21.5V at 4 mA	
Input resistance	15 Ω	
Line fault detection	Can be switched on/off for each channel through the Add-on Profile or the configuration assembly	
Short-circuit	> 21 mA	
Open-circuit	< 1 mA	
<b>Analog output</b>		
Number of channels	4	
Suitable field devices	Proportional valves, IP converters, on-site display	
Connection	terminals 1+, 2-; 3+, 4-; 5+, 6-; 7+, 8-	
Line fault detection	can be switched on/off for each channel through the Add-on Profile	
Short-circuit	default setting: < 50 Ω configurable between 0 ... 26 mA	
Open-circuit	deviation of preset output value > 0.5 mA	
Load, max	750 Ω	
Watchdog	output off 0.5 s after serious fault	
<b>Transfer characteristics</b>		
Deviation		
After calibration	0.1% of the signal range at 20 °C (68 °F)	
Influence of ambient temperature	0.1%/10 K of the signal range	
Resolution	12 Bit (0 ... 26 mA)	
Refresh time, approx	100 ms (4 channels)	
<b>Indicators/settings</b>		
LED indicator	Power indicator (P) solid green: supply Diagnostic indicator (I) solid red: module fault, flashing red: communication error, white: fixed parameter set (parameters from the adapter are ignored), flashing white: requests parameters from the adapter Status indicator (1 ... 4) solid red: line fault (lead breakage or short circuit) Configuration indicator (AI, AO) solid white: selected channel mode	
Coding	optional mechanical coding through front socket	
<b>Directive conformity</b>		

## Technical Specifications

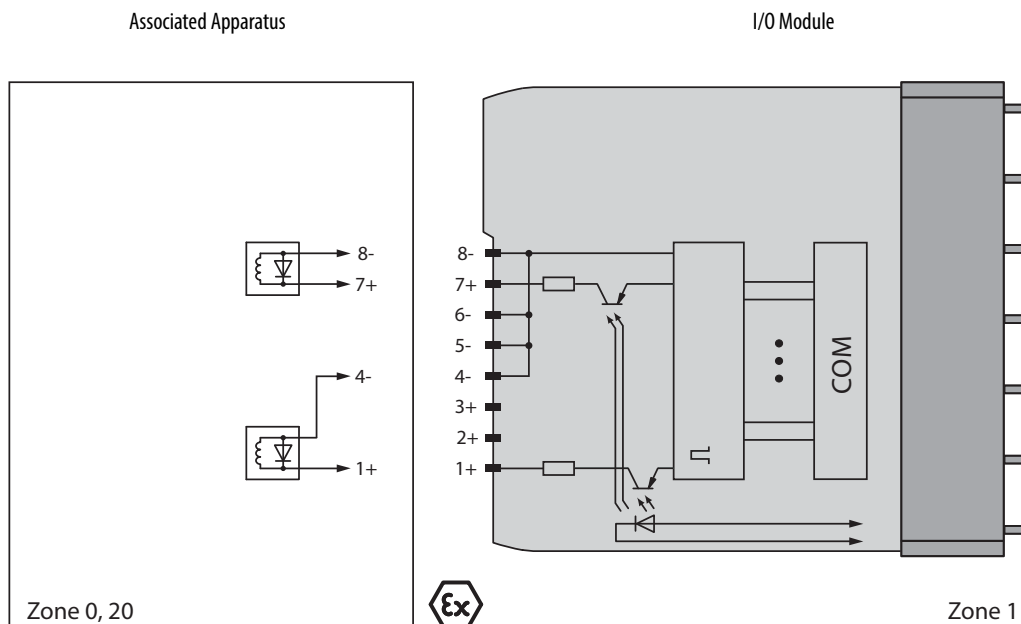
Attribute	1718-CF4H	
Electromagnetic compatibility Directive 2014/30/EU	EN 61326-1	
<b>Conformity</b>		
Electromagnetic compatibility	NE 21	
Degree of protection	IEC 60529	
Environmental test	EN 60068-2-14	
Shock resistance	EN 60068-2-27	
Vibration resistance	EN 60068-2-6	
Relative humidity	EN 60068-2-56	
<b>Ambient conditions</b>		
Ambient temperature	-20...+60 °C (-4...+140 °F)	
Storage temperature	-25...+85 °C (-13...+185 °F)	
Relative humidity	95% noncondensing	
Shock resistance	Shock type I, shock duration 11 ms, shock amplitude 15 g, number of shocks 18	
Vibration resistance	Frequency range 10...150 Hz; transition frequency: 57.56 Hz, amplitude/acceleration $\pm 0.075$ mm/1 g; 10 cycles Frequency range 5...100 Hz; transition frequency: 13.2 Hz amplitude/acceleration $\pm 1$ mm/0.7 g; 90 minutes at each resonance	
<b>Mechanical specifications</b>		
Degree of protection	IP20 (module), a separate housing is required according to the system description	
Connection	Removable front connector with screw terminal (accessory) Wiring connection by spring terminals: 0.14...1.5 mm <sup>2</sup> (26...16 AWG) Wiring connection by screw terminals: 0.08...1.5 mm <sup>2</sup> (28...16 AWG)	
Weight, approx	425 g (15 oz)	
Dimensions	28 x 107 x 132 mm (1.1 x 4.2 x 5.2 in.)	
<b>Data for application in connection with hazardous areas</b>		
EU-Type Examination Certificate Marking	Presafe 19 ATEX 14057 U ⊕ II 2(1)G Ex db eb q [Ia Ga] IIC Gb II (1)D [Ex ia Da] IIIC I (M1) [Ex ia Ma] I	
Supply		
Voltage	U <sub>o</sub>	27V
Current	I <sub>o</sub>	87 mA
Power	P <sub>o</sub>	575 mW (linear characteristic)
Input	Ex ia	
Voltage	U <sub>o</sub>	27V
Current	I <sub>o</sub>	87 mA
Power	P <sub>o</sub>	575 mW (linear characteristic)
Internal capacitance	C <sub>i</sub>	0 nF
Internal inductance	L <sub>i</sub>	0 mH
Output	Ex ia	
Voltage	U <sub>o</sub>	27V
Current	I <sub>o</sub>	87 mA
Power	P <sub>o</sub>	575 mW (linear characteristic)
Galvanic isolation		
Rated voltage	U <sub>m</sub>	250V field circuits to control and supply circuits
Input/power supply, internal bus	Safe electrical isolation according to EN 60079-11, voltage peak value 375V	
Output/power supply, internal bus	Safe electrical isolation according to EN 60079-11, voltage peak value 375V	

## Technical Specifications

Attribute	1718-CF4H
Directive conformity Directive 2014/34/EU	EN 60079-0:2012+A11:2013 EN 60079-1:2014 EN 60079-5:2015 EN 60079-7:2015 EN 60079-11:2012
<b>International approvals</b>	
ATEX approval	Presafe 19 ATEX 14057 U
IECEx approval Approved for	IECEx PRE 19.0012U Ex db eb q [ia Ga] IIC Gb [Ex ia Da] IIIC [Ex ia Ma] I
<b>General Information</b>	
System information	The module may be installed only in the associated chassis 1718-Ax in Zone 1, 2, 21, 22, or outside the hazardous area. The corresponding declaration of conformity has to be observed. For use in hazardous areas (for example, Zone 1, 2, 21, or 22) the module must be installed in an appropriate enclosure.
Supplementary information	EC-Type Examination Certificate, Statement of Conformity, Declaration of Conformity, Attestation of Conformity and instructions have to be observed where applicable. For certification information and links to control drawings with complete entity parameter details, see the 1718 Certification Bulletin, publication <a href="#">1718-CT001</a> .

## 1718 Ex I/O Digital Output

Figure 7 - 1718-OB2 and 1718-OB2L Ex I/O 2 Point Digital Output Connection



### Technical Specifications

Attribute	1718-OB2	1718-OB2L
<b>Slots</b>		
Occupied slots	1	
<b>Supply</b>		
Connection	Chassis bus	
Rated voltage	$U_r$	Use only in connection with the power supply 1718-PSDC
Power dissipation	2.0 W	2.0 W
Power consumption	3.0 W	3.0 W
<b>Internal bus</b>		
Connection	Chassis bus	
Interface	Manufacturer-specific bus to standard adapter	
<b>Digital Output</b>		
Number of channels	2	
Suitable field devices	Solenoid valves, acoustic alarms, and visual alarms	
Connection	Channel I: 1+, 4/5/6/8-; channel II: 7+, 4/5/6/8-	
Current limit	$I_{max}$	40 mA (single mode), 80 mA (parallel mode)   50 mA (single mode), 100 mA (parallel mode)
Internal resistor	$R_i$	258 $\Omega$ (single mode), 129 $\Omega$ (parallel mode)   131 $\Omega$ (single mode), 66 $\Omega$ (parallel mode)
Open loop voltage	$U_s$	23 V   16.5 V
Line fault detection	Can be switched on/off for each channel through the Add-on Profile, also when turned off <sup>(1)</sup>	
Short-circuit	< 50 $\Omega$	
Open-circuit	> 10 k $\Omega$	
Response time	10 ms (depending on bus cycle time)	
Watchdog	within 0.5 s the device goes in safe state, for example, after loss of communication	

## Technical Specifications

Attribute	1718-0B2	1718-0B2L
<b>Indicators/settings</b>		
LED indicator	Power indicator (P) solid green: supply Diagnostic indicator (I) solid red: module fault, flashing red: communication error, solid white: fixed parameter set (parameters from the adapter are ignored), flashing white: requests parameters from the adapter Status indicator(1, 2) solid red: line fault (lead breakage or short circuit), solid yellow: state of digital I/O (0/1) Mode indicator (M) solid white: Parallel operation of outputs	
Coding	Optional mechanical coding through front socket	
<b>Directive conformity</b>		
Electromagnetic compatibility Directive 2014/30/EU	EN 61326-1	
<b>Conformity</b>		
Electromagnetic compatibility	NE 21	
Degree of protection	IEC 60529	
Environmental test	EN 60068-2-14	
Shock resistance	EN 60068-2-27	
Vibration resistance	EN 60068-2-6	
Relative humidity	EN 60068-2-56	
<b>Ambient conditions</b>		
Ambient temperature	-20...+60 °C (-4...+140 °F)	
Storage temperature	-25...+85 °C (-13...+185 °F)	
Relative humidity	95% noncondensing	
Shock resistance	Shock type I, shock duration 11 ms, shock amplitude 15 g, number of shocks 18	
Vibration resistance	Frequency range 10...150 Hz; transition frequency: 57.56 Hz, amplitude/acceleration $\pm 0.075$ mm/1 g; 10 cycles Frequency range 5...100 Hz; transition frequency: 13.2 Hz amplitude/acceleration $\pm 1$ mm/0.7 g; 90 minutes at each resonance	
<b>Mechanical specifications</b>		
Degree of protection	IP20 (module), a separate housing is required according to the system description	
Connection	Removable front connector with screw terminal (accessory) wiring connection by spring terminals: 0.14...1.5 mm <sup>2</sup> (26...16 AWG) wiring connection by screw terminals: 0.08...1.5 mm <sup>2</sup> (28...16 AWG)	
Weight, approx	425 g (15 oz)	
Dimensions	28 x 107 x 132 mm (1.1 x 4.2 x 5.2 in.)	
<b>Data for application in connection with hazardous areas</b>		
EU-Type Examination Certificate Marking	Presafe 19 ATEX 14054 U Ⓢ II 2(1)G Ex db eb q [ia Ga] IIC Gb II (1)D [Ex ia Da] IIIC I (M1) [Ex ia Ma] I	
Output		
Voltage	U <sub>o</sub>	24.2V
Current	I <sub>o</sub>	108 mA
Power	P <sub>o</sub>	654 mW
Internal capacitance	C <sub>i</sub>	12 nF
Internal inductance	L <sub>i</sub>	0 mH
		17.8V
		162 mA
		721 mW
		12 nF
		0 mH

**Technical Specifications**

Attribute	1718-OB2	1718-OB2L
Output (both channels parallel)		
Voltage $U_o$	24.2V	17.8V
Current $I_o$	216 mA	324 mA
Power $P_o$	1308 mW	1442 mW
Internal capacitance $C_i$	24 nF	24 nF
Internal inductance $L_i$	0 mH	0 mH
Galvanic isolation Output/power supply, internal bus	Safe electrical isolation according to EN 60079-11, voltage peak value 375V	
Directive conformity Directive 2014/34/EU	EN 60079-0:2012+A11:2013 EN 60079-1:2014 EN 60079-5:2015 EN 60079-7:2015 EN 60079-11:2012	

**International approvals**

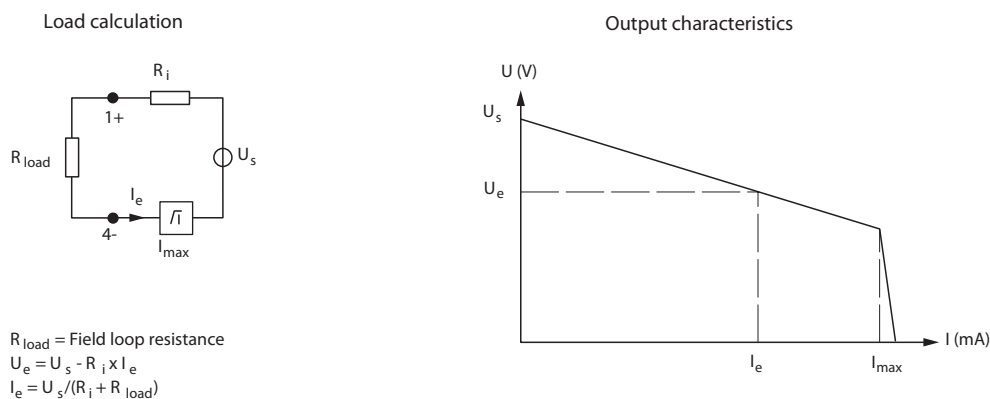
ATEX approval	Presafe 19 ATEX 14054 U
IECEx approval Approved for	IECEx PRE 19.0009U Ex db eb q [ia Ga] IIC Gb [Ex ia Da] IIIC [Ex ia Ma] I

**General Information**

System information	The module may be installed only in the associated chassis 1718-Ax in Zone 1, 2, 21, 22, or outside the hazardous area. The corresponding declaration of conformity has to be observed. For use in hazardous areas (for example, Zone 1, 2, 21, or 22) the module must be installed in an appropriate enclosure.
Supplementary information	EC-Type Examination Certificate, Statement of Conformity, Declaration of Conformity, Attestation of Conformity and instructions have to be observed where applicable. For certification information and links to control drawings with complete entity parameter details, see the 1718 Certification Bulletin, publication <a href="#">1718-CT001</a> .

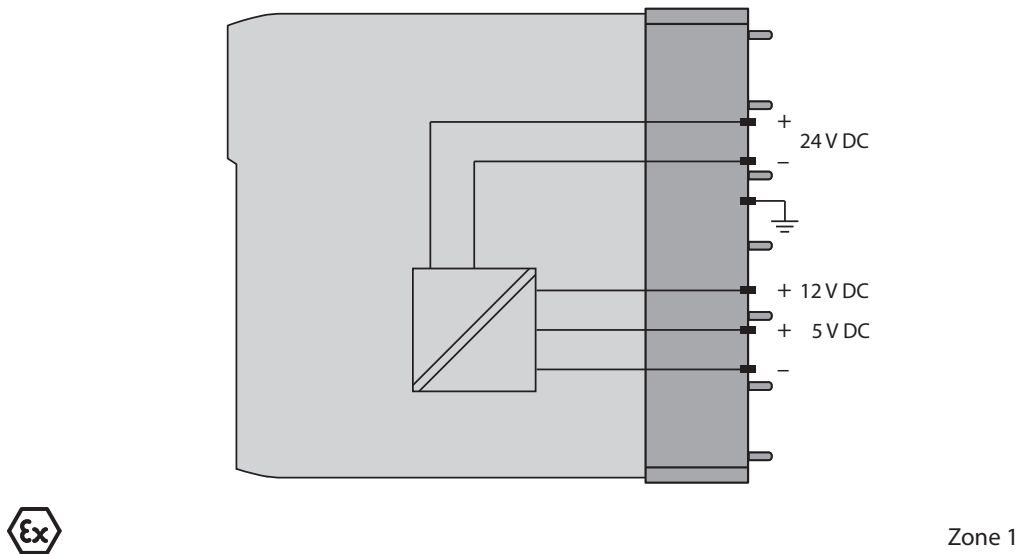
(1) When the channel is turned off, the line fault detection turns on the valve every 2.5 s for a duration of 2 ms to monitor line faults.

**Figure 8 - 1718-OB2 and 1718-OB2L Output Data**



## 1718 Ex I/O Power Supply

Figure 9 - 1718-PSDC Ex I/O DC Power Supply - Connection



### Technical Specifications

Attribute	1718-PSDC	
<b>Slots</b>		
Occupied slots	2	
<b>Supply</b>		
Connection	wired to Ex e terminals through the chassis	
Maximum safe voltage	$U_m$	60V DC (SELV/PELV)
Input voltage range	$U$	18...32V DC (SELV/PELV)
Power dissipation, approx.	4.7 W @ 100% load 3.8 W @ 50% load	
Power consumption, max	≤44 W parallel connection with other 1718-PSDC (automatic power sharing)	
Inrush current	6 A (30 ms) 15 A (20 μs)	
<b>Output</b>		
Voltage	12V DC + 4/- 2%	
Power	39 W	
Power dissipation	4.7 W at 100% load 3.8 W at 50% load	
<b>Indicators/settings</b>		
Status indicator	Status indicator green: OFF in case of loss of 24V	
<b>Directive conformity</b>		
Electromagnetic compatibility Directive 2014/30/EU	EN 61326-1:2013 (industrial locations)	
<b>Conformity</b>		
Galvanic isolation	EN 61010-1:2010	
Degree of protection	IEC 60529	



## Technical Specifications

Attribute	1718-PSDC
Environmental test	EN 60068-2-14
Shock resistance	EN 60068-2-27
Vibration resistance	EN 60068-2-6
Relative humidity	EN 60068-2-56
<b>Ambient conditions</b>	
Ambient temperature	-20...+60 °C (-4...+140 °F)
Storage temperature	-25...+85 °C (-13...+185 °F)
Relative humidity	95% noncondensing
Shock resistance	shock type I, shock duration 11 ms, shock amplitude 15 g, number of shocks 18
Vibration resistance	frequency range 10...150 Hz; transition frequency: 57.56 Hz, amplitude/acceleration $\pm 0.075$ mm/1 g; 10 cycles frequency range 5...100 Hz; transition frequency: 13.2 Hz amplitude/acceleration $\pm 1$ mm/0.7 g; 90 minutes at each resonance
<b>Mechanical specifications</b>	
Degree of protection	IP20 (module), a separate housing is required according to the system description
Weight, approx	970 g (34.22 oz)
Dimensions	57 x 107 x 132 mm (2.2 x 4.2 x 5.2 in.)
<b>Data for application in connection with hazardous areas</b>	
EU-Type Examination Certificate Marking	Ⓔ II 2G Ex db eb q IIC Gb
Galvanic isolation Output/power supply, internal bus	EN 60950-1 (safety requirement < 60V, external power supply SELV/PELV)
Directive conformity Directive 2014/30/EU	EN 60079-0:2012+A11:2013 EN 60079-1:2014 EN 60079-5:2015 EN 60079-7:2015
<b>International approvals</b>	
ATEX approval	Presafe 19 ATEX 14059U
IECEX approval	IECEX PRE 19.0014U
Approved for	Ex db eb q IIC Gb
<b>General Information</b>	
System information	The module may be installed only in the associated chassis 1718-Ax in Zone 1, 2, 21, 22, or outside the hazardous area. The corresponding declaration of conformity has to be observed. For use in hazardous areas (for example, Zone 1, 2, 21, or 22) the module must be installed in an appropriate enclosure.
Supplementary information	EC-Type Examination Certificate, Statement of Conformity, Declaration of Conformity, Attestation of Conformity and instructions have to be observed where applicable. For certification information and links to control drawings with complete entity parameter details, see the 1718 Certification Bulletin, publication <a href="#">1718-CT001</a> .

# 1718 Ex I/O Chassis

Figure 10 - 1718-A10 Ex I/O 10 Slot Chassis - Assembly

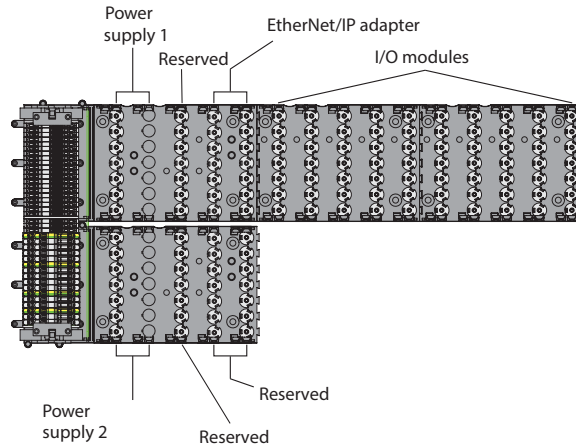
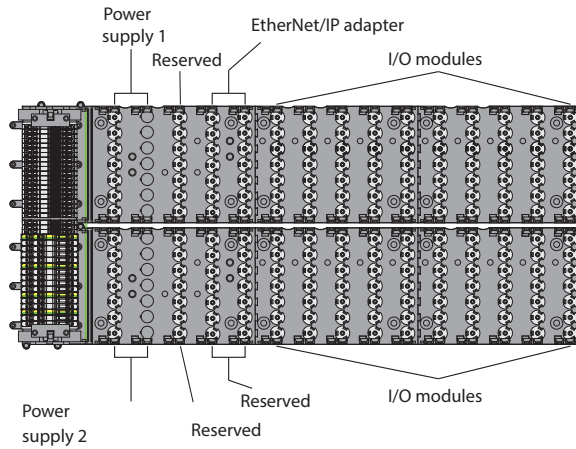


Figure 11 - 1718-A20 Ex I/O 10 Slot Chassis - Assembly



## Technical Specifications

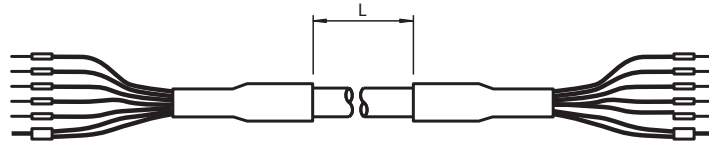
Attribute	1718-A20	1718-A10
<b>Available slots</b>		
Adapter	2	
Supply	2	
I/O modules (single width), max	20	10
I/O modules (dual width), max	10	5
<b>Supply</b>		
Maximum safe voltage	$U_m$	60V DC (SELV/PELV) / 253V AC, depending on power supply
Input voltage range	$U$	18...32V DC (SELV/PELV) / 95...253V AC; depending on power supply
Redundancy		yes
<b>Fieldbus interface</b>		
Redundancy		none
<b>Directive conformity</b>		
Electromagnetic compatibility Directive 2014/30/EU		EN 61326-1:2006

## Technical Specifications

Attribute	1718-A20	1718-A10
<b>Conformity</b>		
Degree of protection	EN 60529	
<b>Ambient conditions</b>		
Ambient temperature	-20...+65 °C (-4...+149 °F)	
Shock resistance	shock type I, shock duration 11 ms, shock amplitude 15 g, number of shocks 18	
Vibration resistance	frequency range 10...150 Hz; transition frequency: 57.56 Hz, amplitude/acceleration $\pm 0.075$ mm/1 g; 10 cycles frequency range 5...100 Hz; transition frequency: 13.2 Hz amplitude/acceleration $\pm 1$ mm/0.7 g; 90 minutes at each resonance	
<b>Mechanical specifications</b>		
Degree of protection	IP30	
Weight, approx	2725 g	2735 g
Dimensions, (W x H x D)	511 x 212 x 142 mm, without modules	
<b>Data for application in connection with hazardous areas</b>		
EU-Type Examination Certificate Marking	BVS 11 ATEX E 041 X ⊕ II 2G Ex db eb mb IIC T4	
<b>International approvals</b>		
IECEX approval Approved for	BVS 11.0019X International: Ex db eb mb IIC T4; Ex db eb IIC T4	
INMETRO	Brazil: TÜV 14.1598X	
<b>General Information</b>		
Supplementary information	EU-Type Examination Certificate, Statement of Conformity, Declaration of Conformity, Attestation of Conformity and instructions have to be observed where applicable. For certification information and links to control drawings with complete entity parameter details, see the 1718 Certification Bulletin, publication <a href="#">1718-CT001</a> .	

## 1718 Ex I/O Chassis Connection Cable

Figure 12 - 1718-CBL3 Chassis Connection Cable



### Technical Specifications

<b>Attribute</b>	<b>1718-CBL3</b>	
<b>General Specifications</b>		
Number of pins	6	
Connections	cable end	
<b>Ambient conditions</b>		
Ambient temperature	-20...+60 °C (-4...+140 °F)	
Storage temperature	-25...+85 °C (-13...+185 °F)	
<b>Mechanical specifications</b>		
Cable		
Color	gray	
Length	L	300 cm (9.84 ft)
Mass	530 g (18.7 oz)	
<b>International approvals</b>		
Marine approval		
Bureau Veritas Marine	22449/B0 BV	

## 1718 Ex I/O Placeholder

### 1718-ARM Ex I/O Placeholder Module

#### Technical Specifications

<b>Attribute</b>	<b>1718-ARM</b>
<b>Slots</b>	
Occupied slots	1
<b>Supply</b>	
Connection	Chassis bus
Rated voltage	$U_r$ Use only in connection with the power supply 1718-PSDC
<b>Ambient conditions</b>	
Shock resistance	Shock type I, shock duration 11 ms, shock amplitude 15 g, number of shocks 18
Vibration resistance	frequency range 10...150 Hz; transition frequency: 57.56 Hz, amplitude/acceleration $\pm 0.075$ mm/1 g; 10 cycles frequency range 5...100 Hz; transition frequency: 13.2 Hz amplitude/acceleration $\pm 1$ mm/0.7 g; 90 minutes at each resonance
<b>Mechanical specifications</b>	
Connection	Removable front connector with screw terminal (accessory) Wire connection by spring terminals: 0.14...1.5 mm <sup>2</sup> (26...16 AWG) Wire connection by screw terminals: 0.08...1.5 mm <sup>2</sup> (28...16 AWG)
Weight, approx	160 g (5.64 oz)
Dimensions	57 x 107 x 132 mm (2.2 x 4.2 x 5.2 in.)
<b>General Information</b>	
System information	The module may be installed only in the associated chassis 1718-Ax in Zone 1, 2, 21, 22, or outside the hazardous area. The corresponding declaration of conformity has to be observed. For use in hazardous areas (for example, Zone 1, 2, 21, or 22) the module must be installed in an appropriate enclosure.
Supplementary information	EC-Type Examination Certificate, Statement of Conformity, Declaration of Conformity, Attestation of Conformity and instructions have to be observed where applicable. For certification information and links to control drawings with complete entity parameter details, see the 1718 Certification Bulletin, publication <a href="#">1718-CT001</a> .

## Additional Resources

These documents contain additional information concerning related products from Rockwell Automation.

Resource	Description
1718 Ex I/O Installation Instructions, publication <a href="#">1718-IN001</a>	Describes how to install and wire the 1718 Ex I/O input and output modules.
1718 Ex I/O User Manual, publication <a href="#">1718-UM001</a>	Provides information on using the 1718 Ex I/O modules, chassis, and accessories.
1718 Certification Bulletin, publication <a href="#">1718-CT001</a>	Provides 1718 Ex I/O certification information and links to control drawings.
Industrial Automation Wiring and Grounding Guidelines, publication <a href="#">1770-4.1</a>	Provides general guidelines for installing a Rockwell Automation industrial system.
Product Certifications website, <a href="http://rok.auto/certifications">rok.auto/certifications</a> .	Provides declarations of conformity, certificates, and other certification details.

You can view or download publications at [rok.auto/literature](http://rok.auto/literature).

# Rockwell Automation Support

Use these resources to access support information.

<b>Technical Support Center</b>	Find help with how-to videos, FAQs, chat, user forums, and product notification updates.	<a href="http://rok.auto/support">rok.auto/support</a>
<b>Knowledgebase</b>	Access Knowledgebase articles.	<a href="http://rok.auto/knowledgebase">rok.auto/knowledgebase</a>
<b>Local Technical Support Phone Numbers</b>	Locate the telephone number for your country.	<a href="http://rok.auto/phonesupport">rok.auto/phonesupport</a>
<b>Literature Library</b>	Find installation instructions, manuals, brochures, and technical data publications.	<a href="http://rok.auto/literature">rok.auto/literature</a>
<b>Product Compatibility and Download Center (PCDC)</b>	Download firmware, associated files (such as AOP, EDS, and DTM), and access product release notes.	<a href="http://rok.auto/pcdc">rok.auto/pcdc</a>

## Documentation Feedback

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Rockwell Automation maintains current product environmental compliance information on its website at [rok.auto/pec](http://rok.auto/pec).

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