Technical Data

Original Instructions

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

Summary of Changes

This publication contains the following new or updated information. This list includes substantive updates only and is not intended to reflect all changes.

Topic	Page
Updated template	Throughout
Updated Supply voltage specifications for 1718-A20 and 1718-A10 chassis.	23

1718 Ex I/O Products

Communication Adapter

Type	Function	Features
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.	• Communication through EtherNet/IP • HART communication through EtherNet/IP • Interface between the I/O modules and the PCS/PLC • Installation in suitable enclosures in Zone 1

Digital Input Modules

Type	Function	Features
1718-IJ 1718-IBN8B 1718-IBN8	The device accepts digital input signals of NAMUR sensors or mechanical contacts from the hazardous area. Open and short-circuit line faults are detected. The inputs are galvanically isolated from the bus and the power supply (EN 60079-11).	• Inputs Ex ia • Installation in suitable enclosures in Zone 1 • Module can be removed and inserted under power (RIUP) • Line fault detection (LFD) • Permanently self-monitoring • 1-channel (**1718-IJ**); 8-channel (**1718-IBN8B, 1718-IBN8**) • Input for frequency, counter, direction of rotation (**1718-IJ**) • Digital input max 15 kHz (**1718-IJ**) • Dry contact or NAMUR inputs (**1718-IJ, 1718-IBN8, 1718-IBN8B**)

Analog Input Modules

Type	Function	Features
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.	• 4-channel • Inputs Ex ia • Installation in suitable enclosures in Zone 1 • Module can be removed and inserted under power (RIUP) • Line fault detection (LFD) • Permanently self-monitoring • Power supply for 2-wire transmitters with 4…20 mA (**1718-IF4HB**) • Supply circuit 15V (20 mA) (**1718-IF4HB**) • Input from active signals of 4-wire transmitters (**1718-IF4HB**) • HART communication through fieldbus (**1718-IF4HB**) • Converter for 2, 3, and 4-wire RTDs (Pt100…Pt1000), slide wire sensors, and so on (**1718-IR4B**) • Converter for thermocouples and mV-signals (**1718-IT4B**)
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.	

Configurable Analog Input/Output Modules

Type	Function	Features
1718-CF4H	The device is a configurable universal module. Each channel can operate in the following modes: • As an analog input (AI) it feeds 2-wire transmitters. • As an analog output (AO) it can drive proportional valves, I/P converters, or local indicators. The intrinsically safe signals are galvanically isolated from the bus and the power supply.	• 4-channel • Inputs Ex ia, Outputs Ex ia • Installation in suitable enclosures in Zone 1 • Module can be removed and inserted under power (RIUP) • Analog input, analog output • Supply circuit 21.5V (4 mA) • HART communication through fieldbus • Line fault detection (LFD): one LED per channel • Permanently self-monitoring

Digital Output Modules

Type	Function	Features
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.	• Outputs Ex ia • Installation in suitable enclosures in Zone 1 • 2-channel • Module can be removed and inserted under power (RIUP) • Line fault detection (LFD) • Permanently self-monitoring • Output with bus-independent safety shutdown input

Power Supply Module

Type	Function	Features
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).	• Power supply for 24V DC • Suitable for supplying 1 adapter and up to 20 I/O modules, depending on individual power consumption of the modules • Installation in suitable enclosures in Zone 1 • Module can be removed and inserted under power (RIUP) • Use two power supplies for redundancy

Chassis

Type	Function	Features
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.	• Max 20 slots for I/O modules (**1718-A20**); Max 10 slots for I/O modules (**1718-A10**); • Redundancy (power supply) • Installation in suitable enclosures in Zone 1

Chassis combinations

	Extension	
Base	**1718-A10**	**1718-A20**
1718-A10	–	–
1718-A20	X	X

Connection Cable

Type	Function	Features
1718-CBL3	1718-CBL3 chassis patchcords, for base chassis to extension chassis.	• For connection of base and extension chassis

Placeholder

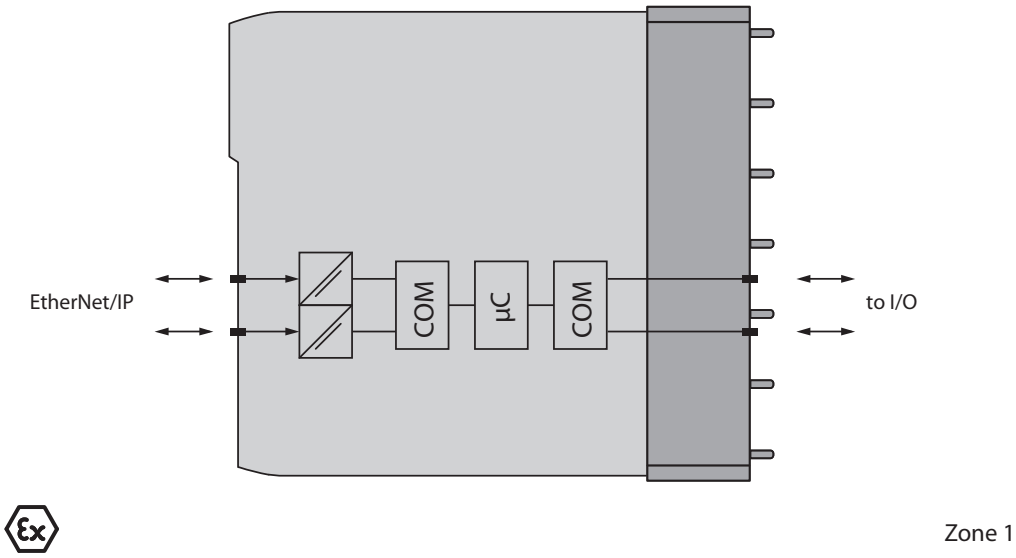
Type	Function	Features
1718-ARM	Placeholder modules are used to cover empty slots on the chassis and fix unused field wiring, if needed. This module does not reserve an address. This module can be placed in any sequence on the chassis.	• Placeholder module • Installation in suitable enclosures in Zone 1 • Module can be removed and inserted under power (RIUP)

1718 Ex I/O Modules

Type	Catalog Number	Description	Page
Communication Adapter	1718-AENTR	Ex I/O EtherNet/IP Adapter	6
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	16
Digital Output	1718-OB2	Ex I/O 2 Point Digital Output 23V	18
	1718-OB2L	Ex I/O 2 Point Digital Output 16.5V	
Power Supply	1718-PSDC	Ex I/O DC Power Supply	21
Chassis	1718-A20	Ex I/O 20 Slot Chassis	22
	1718-A10	Ex I/O 10 Slot Chassis	
Connection Cable	1718-CBL3	Ex I/O Chassis Connection Cable 3 m (9.84 ft.)	24
Placeholder	1718-ARM	Ex I/O Empty Slot Cover	24

1718 Ex I/O Communication Adapter

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



Technical Specifications

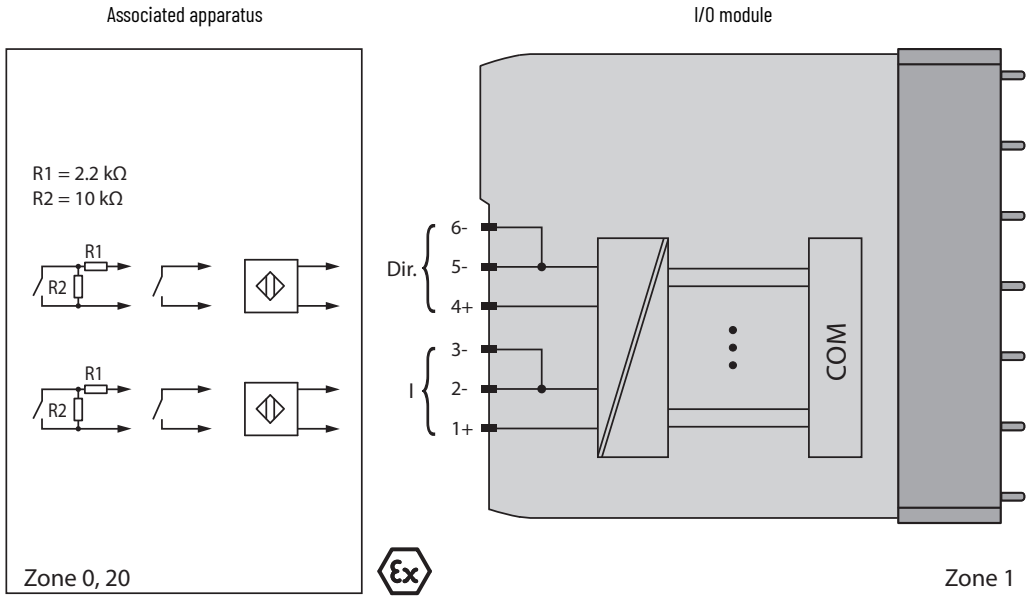
Attribute		1718-AENTR
Supply		
Connection		Chassis bus
Nominal voltage	U_n	12V DC, use only with the power supply module 1718-PSDC
Maximum safe voltage	U_m	60V DC (SELV/PELV)
Power dissipation		4.4 W
Power consumption		4.4 W
Fieldbus Interface		
Fieldbus type		EtherNet/IP
Ethernet Interface		
Connection 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
Internal Bus		
Connection		Chassis bus
Galvanic Isolation		
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
Electrical Isolation		
Power supply, internal bus/other circuits		Basic insulation according to IEC/EN 61010-1, rated insulation voltage 30V DC
Indicators/Settings		
Status indicator		• LED green (power supply): Steady green = operating; fast flashing = boot up or power on self test • LED red (collective alarm): Steady red = internal fault; flashing = no established connections or connection timeout • LED yellow (operating mode): Slow flashing= active, normal operation; fast flashing = active, simulation

Technical Specifications (Continued)

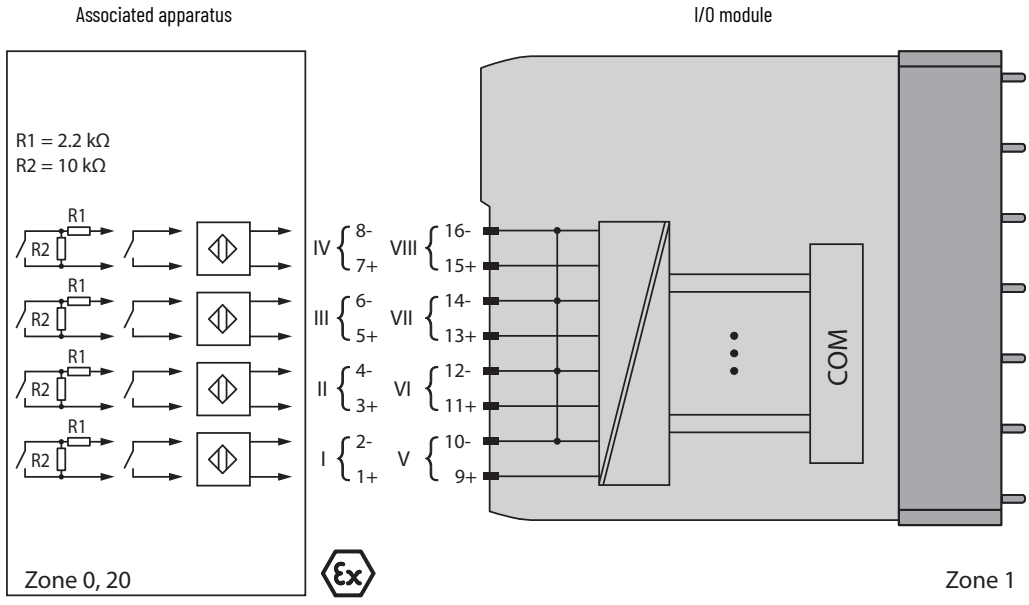
Attribute	1718-AENTR
Directive Conformity	
Electromagnetic compatibility Directive 2014/30/EU	EN 61326-1
Conformity	
Electromagnetic compatibility	NE 21
Degree of protection	IEC 60529
Fieldbus standard	IEEE 802.3
Environmental test	EN 60068-2-14
Shock resistance	EN 60068-2-27
Vibration resistance	EN 60068-2-6
Relative humidity	EN 60068-2-56
Ambient Conditions	
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 @ each resonance
Mechanical Specifications	
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)
Data for Application in Connection with Hazardous Areas	
EU-Type Examination Certificate Marking	PTB 19 ATEX 2007 U ⟨Ex⟩ 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
International Approvals	
ATEX approval	PTB 19 ATEX 2007 U
IECEx approval Approved for	IECEx PTB 19.0025U Ex db eb ib q IIC Gb
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 1718-CT001.

1718 Ex I/O Digital Input

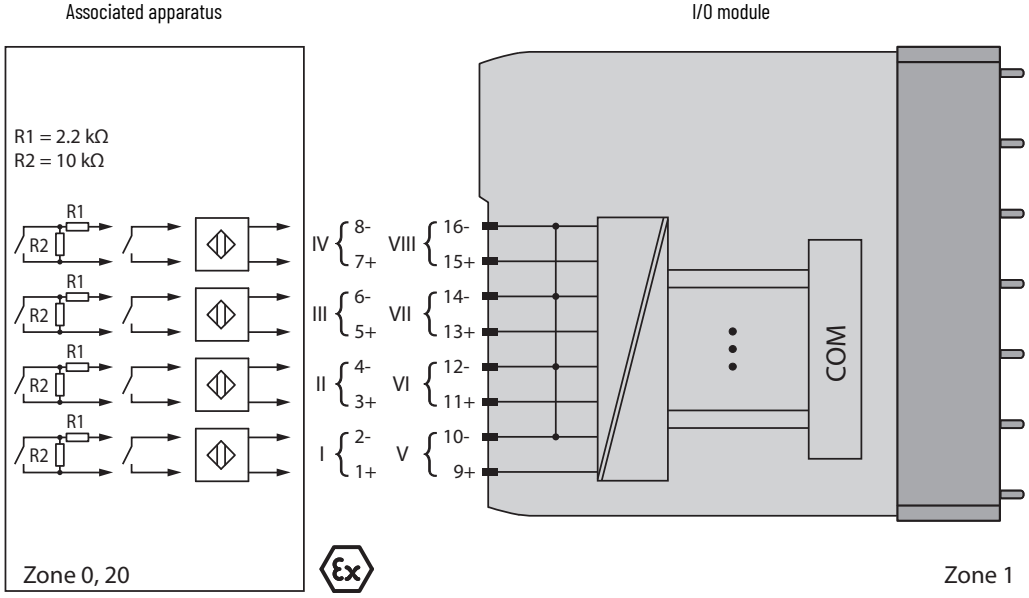
1718-IJ Ex I/O Frequency Counter – Connection



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



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



Technical Specifications

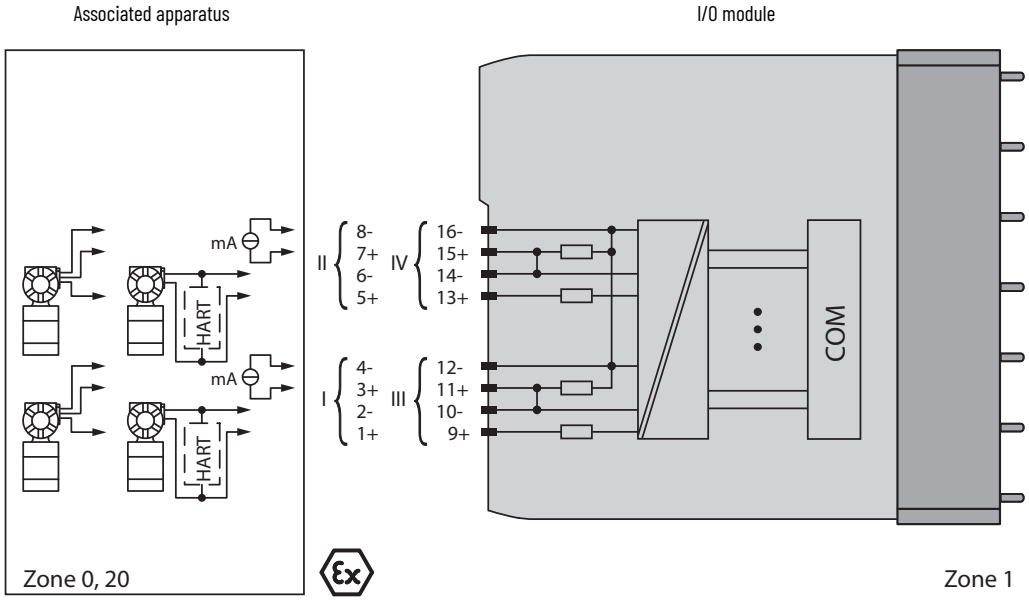
Attribute	1718-IJ	1718-IBN8B	1718-IBN8
Slots			
Occupied slots	1	2	1
Supply			
Connection	Chassis bus		
Rated voltage U_r	Use only with the power supply 1718-PSDC		
Power consumption	0.7 W	1.0 W	1.5 W
Power dissipation	0.7 W	1.0 W	1.5 W
Internal Bus			
Connection	Chassis bus		
Interface	Manufacturer-specific bus to standard adapter		
Digital Input			
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		
Internal resistor R_i	1 kΩ		
Line fault detection	Can be switched on/off for each channel through the Add-on Profile		
Connection Short-circuit Open-circuit	Mechanical switch with additional resistors (see connection diagram) proximity switches without additional wiring < 360 Ω < 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	–	
Indicators/Settings			
Status indicator	Green power supply: supply Red: line fault		Green: supply Red: line fault, per channel
Coding	Optional mechanical coding through front socket		

Technical Specifications (Continued)

Attribute	1718-IJ	1718-IBN8B	1718-IBN8
Directive Conformity			
Electromagnetic compatibility Directive 2014/30/EU	EN 61326-1		
Conformity			
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		
Ambient Conditions			
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 @ each resonance		
Mechanical Specifications			
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^2 (26...16 AWG)		Removable front connector (accessory) Wiring connection by spring terminal only: 0.14...0.5 mm^2 (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.)
Data for Application in Connection with Hazardous Areas			
EU-Type Examination Certificate Marking	Presafe 19 ATEX 14058 U Ⓔx 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 Ⓔx 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_0 Current I_0 Power P_0	 10.5V 23.34 mA 61.27 mW (linear characteristic)	 14.9V 15.7 mA 58.2 mW (linear characteristic)	 10V 13 mA 33 mW (linear characteristic)
Electrical/Galvanic 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		EN 60079-0:2012 + A11:2013 EN 60079-11:2012 EN 60079-1:2014 EN 60079-5:2015 EN 60079-7:2015
International Approvals			
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
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 1718-CT001.		

1718 Ex I/O Analog Input

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



Technical Specifications

Attribute	1718-IF4HB
Slots	
Occupied slots	2
Supply	
Connection	Chassis bus
Rated voltage U_n	Use only with the power supply 1718-PSDC
Power dissipation	2.0 W
Power consumption	3.0 W
Internal Bus	
Connection	Chassis bus
Interface	Manufacturer-specific bus to standard adapter
Analog Input	
Number of channels	4
Suitable field devices	Pressure converter, flow converter, level converter, temperature converter
Field device interface	2-wire transmitter, 3-wire transmitter, 4-wire transmitter
Connection	**2-wire transmitter (HART):** Supply circuit: channel I 1+, 2-, channel II 5+, 6-, channel III 9+, 10-, channel IV 13+, 14- **3-wire transmitter:** Supply circuit: channel I 1+, 4-, channel II 5+, 8-, channel III 9+, 12-, channel IV 13+, 16- Measurement loop: channel I 3+, 4-, channel II 7+, 8-, channel III 11+, 12-, channel IV 15+, 16- **4-wire transmitter (powered externally):** Measurement loop: channel I 3+, 4-, channel II 7+, 8-, channel III 11+, 12-, channel IV 15+, 16-
Transmitter supply voltage	≥15V @ 20 mA; 21.5V @ 4 mA
Input resistance	15 Ω
Line fault detection Short-circuit Open-circuit	Can be switched on/off for each channel through the Add-on Profile, configurable through the Add-on Profile >21 mA <1 mA
Transfer Characteristics	
Deviation After calibration Influence of ambient temperature	 0.1% of the signal range @ 20 °C (68 °F) 0.1%/10 K of the signal range
Resolution	12 Bit (0...26 mA)
Refresh time	100 ms

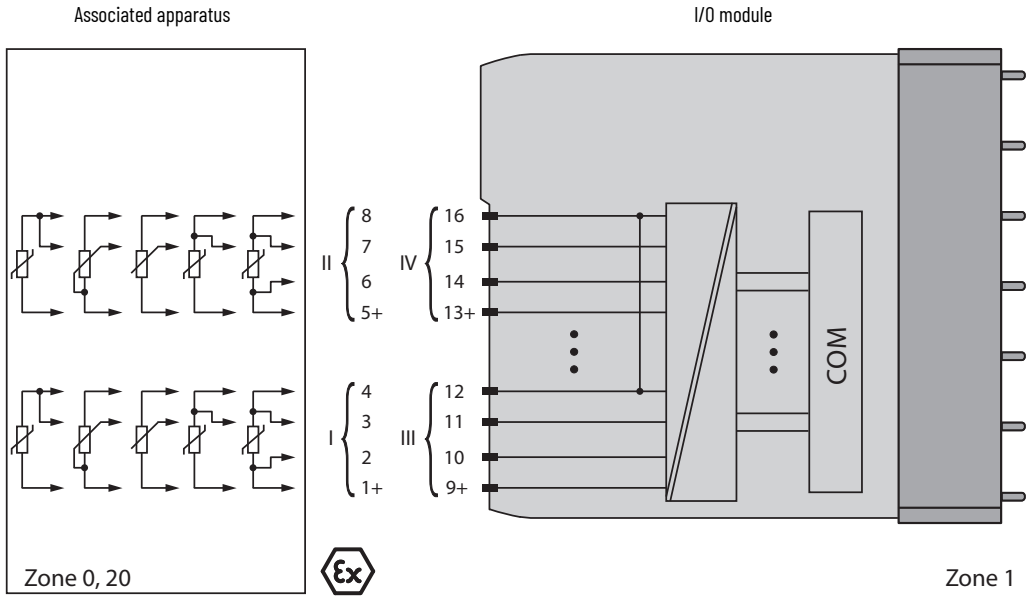
Technical Specifications (Continued)

Attribute	1718-IF4HB
Indicators/Settings	
Status indicator	• Power status indicator (P) steady green: supply • Diagnostic status indicator (I) steady red: module fault, flashing red: communication error, steady white: fixed parameter set (parameters from the adapter are ignored), flashing white: requests parameters from the adapter • Status indicator (1...4) steady red: line fault (lead breakage or short-circuit)
Coding	Optional mechanical coding through front socket
Directive Conformity	
Electromagnetic compatibility Directive 2014/30/EU	EN 61326-1:2006
Conformity	
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
Ambient Conditions	
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 @ each resonance
Mechanical Specifications	
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^2 (26...16 AWG) Wire connection by screw terminals: 0.08...1.5 mm^2 (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 Ⓔx 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_o Current I_o Power P_o	 27V 90 mA 588 mW (linear characteristic)
Input Voltage U_o Current I_o Power P_o Internal capacitance C_i Power L_i	 0.7V 2.78 mA 2 mW (trapezoid characteristic curve) 242 nF 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
International Approvals	
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

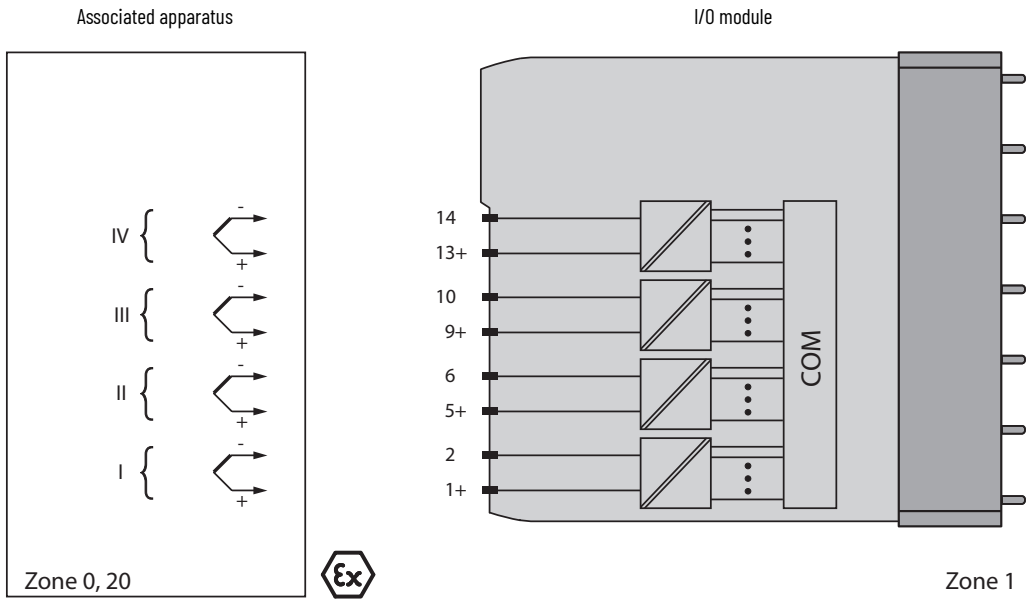
Technical Specifications (Continued)

Attribute	1718-IF4HB
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 1718-CT001.

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



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



Technical Specifications

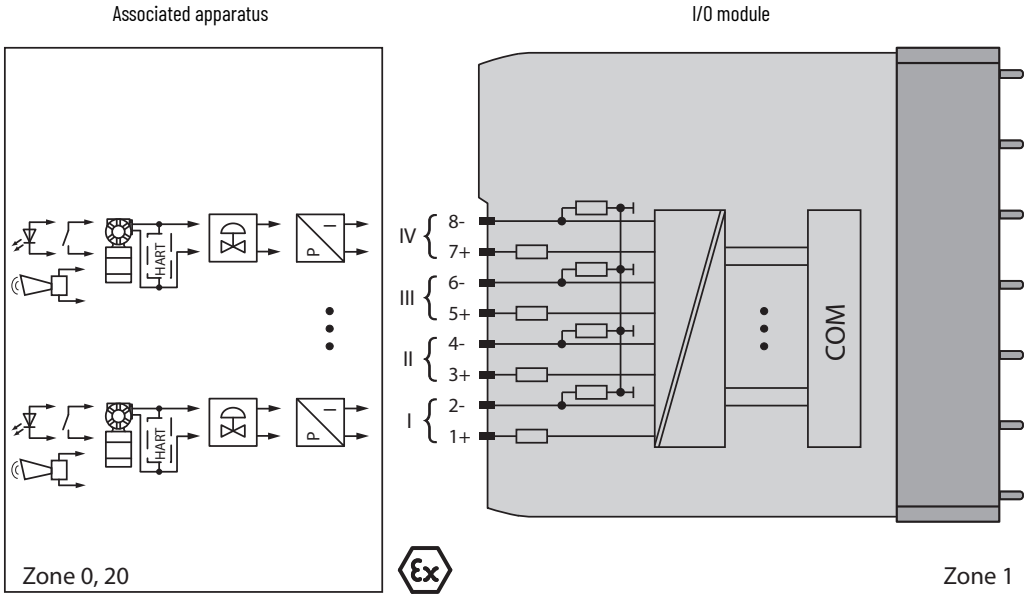
Attribute	1718-IR4B	1718-IT4B
Slots		
Occupied slots	2	
Supply		
Connection	Chassis bus	
Rated voltage U_r	Use only with the power supply 1718-PSDC	
Power consumption	0.4 W	0.9 W
Power dissipation	0.4 W	0.9 W
Internal Bus		
Connection	Chassis bus	
Interface	Manufacturer-specific bus to standard adapter	
Temperature Input		
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 Ω) (500 Ω including line resistance) Pt200 (37...780 Ω) Pt500 (92...1952 Ω) Pt1000 (185...3905 Ω) Ni100 (69...270 Ω) Ni500 (345...1350 Ω) Ni1000 (690...2700 Ω)	-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 kΩ	––
Measuring current	200 µA	––
Smallest span	50 Ω for 0.1% accuracy	5 mV for 0.1% accuracy
Linearity error	0.1%	
Conversion time	≤ 500 ms (4 channels) ≤ 1 s (for 4x 3-wire Pt100)	≤ 300 ms (4 channels) without LFD ≤ 600 ms (4-channel) with LFD
Compensation (reference junction CJC)	––	Internal cold junction compensation
Busy after download	5...15 s	––
Lead resistance	≤50 Ω per strand	––
Line fault detection Short-circuit Open-circuit	Can be switched on/off for each channel through the Add-on Profile <10 Ω >1 Ω	Can be switched on/off for each channel through the Add-on Profile – >1 kΩ
Transfer Characteristics		
Deviation Influence of ambient temperature	Max 0.1%/10 K	
Indicators/Settings		
Status indicator	Status indicator steady green: supply Status indicator steady red: line fault, collective alarm Status indicator flashing: communication error	
Coding	Optional mechanical coding through front socket	

Technical Specifications (Continued)

Attribute	1718-IR4B	1718-IT4B
Directive Conformity		
Electromagnetic compatibility Directive 2014/30/EU	EN 61326-1	
Conformity		
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	
Ambient Conditions		
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 @ each resonance	
Mechanical Specifications		
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^2 (26...16 AWG) Wiring connection by screw terminals: 0.08...1.5 mm^2 (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.)	
Data for Application in Connection with Hazardous Areas		
EU-Type Examination Certificate Marking	Presafe 19 ATEX 14058 U Ⓔx 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_0 Current I_0 Power P_0	 7.14V 70 mA 123 mW (linear characteristic)	 1V 71 mA 62 mW (trapezoid characteristic curve)
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	
International Approvals		
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	
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 1718-CT001.	

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

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



Technical Specifications

Attribute	1718-CF4H
Slots	
Occupies slots	1
Supply	
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
Internal Bus	
Connection	Chassis bus
Interface	Manufacturer-specific bus to standard adapter
Analog Input	
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 @ 20 mA; 21.5V @ 4 mA
Input resistance	15 Ω
Line fault detection Short-circuit Open-circuit	Can be switched on/off for each channel through the Add-on Profile or the configuration assembly >21 mA <1 mA
Analog Output	
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 Short-circuit Open-circuit	Can be switched on/off for each channel through the Add-on Profile Default setting: <50 Ω configurable between 0...26 mA Deviation of preset output value >0.5 mA
Load, max	750 Ω
Watchdog	Output off 0.5 s after serious fault

Technical Specifications (Continued)

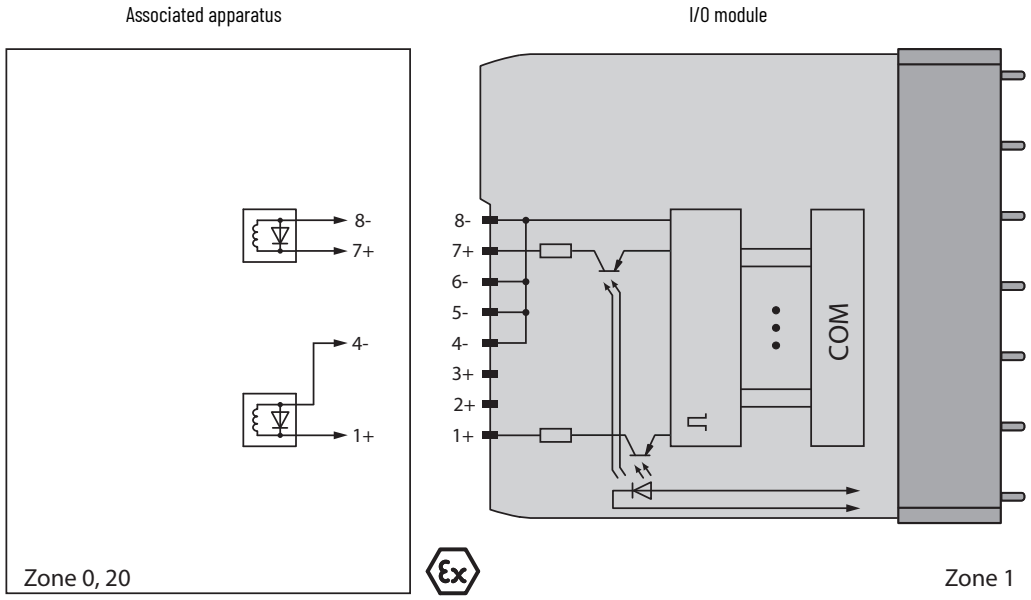
Attribute	1718-CF4H
Transfer Characteristics	
Deviation After calibration Influence of ambient temperature	 0.1% of the signal range @ 20 °C (68 °F) 0.1%/10 K of the signal range
Resolution	12 Bit (0...26 mA)
Refresh time, approx	100 ms (4 channels)
Indicators/Settings	
Status indicator	• Power indicator (P) steady green: supply • Diagnostic indicator (I) steady red: module fault, flashing red: communication error, steady white: fixed parameter set (parameters from the adapter are ignored), flashing white: requests parameters from the adapter • Status indicator (1...4) steady red: line fault (lead breakage or short circuit) • Configuration indicator (AI, AO) steady white: selected channel mode
Coding	Optional mechanical coding through front socket
Directive Conformity	
Electromagnetic compatibility Directive 2014/30/EU	 EN 61326-1
Conformity	
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
Ambient Conditions	
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 @ each resonance
Mechanical Specifications	
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^2 (26...16 AWG) Wiring connection by screw terminals: 0.08...1.5 mm^2 (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.)
Data for Application in Connection with Hazardous Areas	
EU-Type Examination Certificate Marking	Presafe 19 ATEX 14057 U Ⓔx 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_o Current I_o Power P_o	 27V 87 mA 575 mW (linear characteristic)
Input Voltage U_o Current I_o Power P_o Internal capacitance C_i Internal inductance L_i	Ex ia 27V 87 mA 575 mW (linear characteristic) 0 nF 0 mH
Output Voltage U_o Current I_o Power P_o	Ex ia 27V 87 mA 575 mW (linear characteristic)

Technical Specifications (Continued)

Attribute	1718-CF4H
Galvanic isolation Rated voltage U_m Input/power supply, internal bus Output/power supply, internal bus	 250V field circuits to control and supply circuits Safe electrical isolation according to EN 60079-11, voltage peak value 375V 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 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
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 1718-CT001.

1718 Ex I/O Digital Output

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



Technical Specifications

Attribute	1718-OB2	1718-OB2L
Slots		
Occupied slots	1	
Supply		
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

Technical Specifications (Continued)

Attribute		1718-0B2	1718-0B2L
Power consumption		3.0 W	3.0 W
Internal Bus			
Connection		Chassis bus	
Interface		Manufacturer-specific bus to standard adapter	
Digital Output			
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 Ω (single mode), 129 Ω (parallel mode)	131 Ω (single mode), 66 Ω (parallel mode)
Open loop voltage	U_s	23V	16.5V
Line fault detection Short-circuit Open-circuit		Can be switched on/off for each channel through the Add-on Profile, also when turned off[1] <50 Ω >10 kΩ	
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	
Indicators/Settings			
Status indicator		• Power indicator (P) steady green: supply • Diagnostic indicator (I) steady red: module fault, flashing red: communication error, steady white: fixed parameter set (parameters from the adapter are ignored), flashing white: requests parameters from the adapter • Status indicator(1, 2) steady red: line fault (lead breakage or short circuit), steady yellow: state of digital I/O (0/1) • Mode indicator (M) steady white: Parallel operation of outputs	
Coding		Optional mechanical coding through front socket	
Directive Conformity			
Electromagnetic compatibility Directive 2014/30/EU		EN 61326-1	
Conformity			
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	
Ambient Conditions			
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 @ each resonance	
Mechanical Specifications			
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^2 (26...16 AWG) Wiring connection by screw terminals: 0.08...1.5 mm^2 (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.)	
Data for Application in Connection with Hazardous Areas			
EU-Type Examination Certificate Marking		Presafe 19 ATEX 14054 U Ⓔx 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	

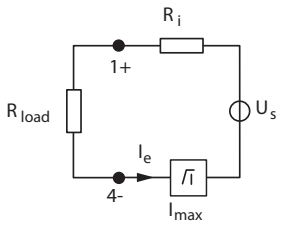
Technical Specifications (Continued)

Attribute		1718-OB2	1718-OB2L
Output			
Voltage	U_o	24.2V	17.8V
Current	I_o	108 mA	162 mA
Power	P_o	654 mW	721 mW
Internal capacitance	C_i	12 nF	12 nF
Internal inductance	L_i	0 mH	0 mH
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 1718-CT001.	

(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.

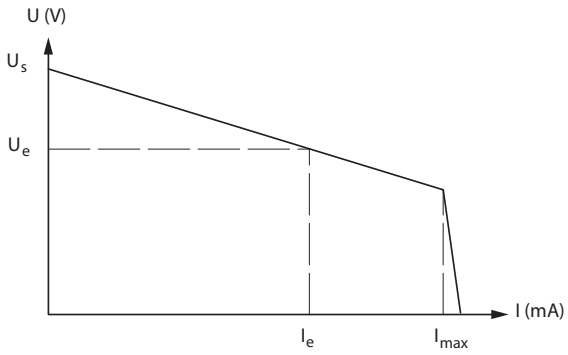
1718-OB2 and 1718-OB2L Output Data

Load calculation



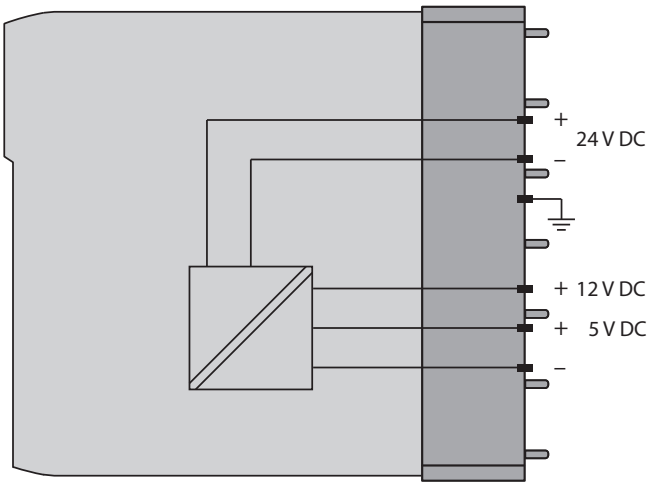
R_{load} = Field loop resistance
$U_e = U_s - R_i \times I_e$
$I_e = U_s/(R_i + R_{load})$

Output characteristics



1718 Ex I/O Power Supply

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



Zone 1

Technical Specifications

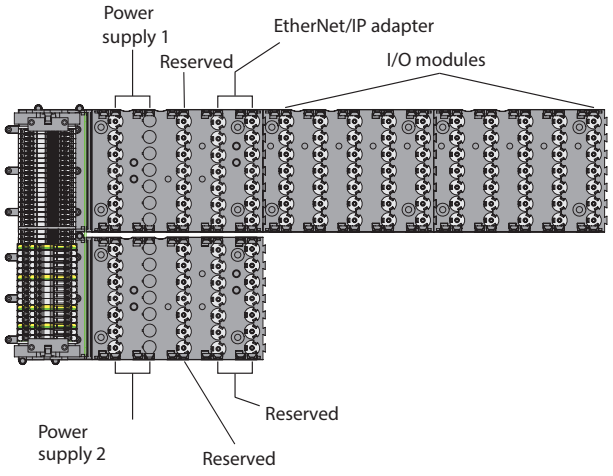
Attribute		1718-PSDC
Slots		
Occupied slots		2
Supply		
Connection		Wired to Ex e terminals through the chassis
Maximum safe voltage	U_m	60V DC (SELV/PELV)
Input voltage range	U	18...32V DC (SELV/PELV)
Power dissipation, approx.		4.7 W @ 100% load 3.8 W @ 50% load
Power consumption, max		≤44 W Parallel connection with other 1718-PSDC (automatic power sharing)
Inrush current		6 A (30 ms) 15 A (20 µs)
Output		
Voltage		12V DC + 4/- 2%
Power		39 W
Power dissipation		4.7 W @ 100% load 3.8 W @ 50% load
Indicators/Settings		
Status indicator		Status indicator green: OFF in case of loss of 24V
Directive Conformity		
Electromagnetic compatibility Directive 2014/30/EU		EN 61326-1:2013 (industrial locations)
Conformity		
Galvanic isolation		EN 61010-1:2010
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
Ambient Conditions		
Ambient temperature		-20...+60 °C (-4...+140 °F)

Technical Specifications (Continued)

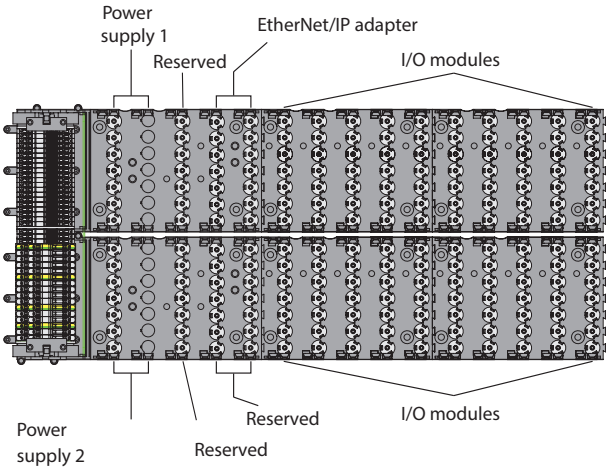
Attribute	1718-PSDC
Storage temperature	-25...+85 °C (-13...+185 °F)
Relative humidity	95% noncondensing
Shock resistance	Shock type I, shock duration 11 ms, shock amplitude 15 g, number of shocks 18
Vibration resistance	Frequency range 10...150 Hz; transition frequency: 57.56 Hz, amplitude/acceleration ±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 @ each resonance
Mechanical Specifications	
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.)
Data for Application in Connection with Hazardous Areas	
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
International Approvals	
ATEX approval	Presafe 19 ATEX 14059U
IECEx approval Approved for	IECEx PRE 19.0014U Ex db eb q IIC Gb
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 1718-CT001.

1718 Ex I/O Chassis

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



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

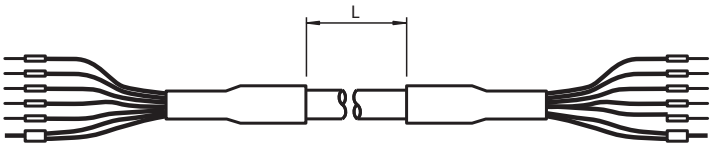


Technical Specifications

Attribute		1718-A20	1718-A10
Available Slots			
Adapter		2	
Supply		2	
I/O modules (single width), max		20	10
I/O modules (dual width), max		10	5
Supply			
Maximum safe voltage	U_m	60V DC (SELV/PELV)	
Input voltage range	U	18...32V DC (SELV/PELV)	
Redundancy		Yes	
Fieldbus Interface			
Redundancy		None	
Directive Conformity			
Electromagnetic compatibility Directive 2014/30/EU		EN 61326-1:2006	
Conformity			
Degree of protection		EN 60529	
Ambient Conditions			
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 ±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 @ each resonance	
Mechanical Specifications			
Degree of protection		IP30	
Weight, approx		2725 g	2735 g
Dimensions, (W x H x D)		511 x 212 x 142 mm, without modules	
Data for Application in Connection with Hazardous Areas			
EU-Type Examination Certificate Marking		BVS 11 ATEX E 041 X Ⓔx II 2G Ex db eb mb IIC T4	
International Approvals			
IECEx approval Approved for		BVS 11.0019X International: Ex db eb mb IIC T4; Ex db eb IIC T4	
INMETRO		Brazil: TÜV 14.1598X	
General Information			
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 1718-CT001.	

1718 Ex I/O Chassis Connection Cable

1718-CBL3 Chassis Connection Cable



Technical Specifications

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

1718 Ex I/O Placeholder

1718-ARM Ex I/O Placeholder Module

Technical Specifications

Attribute		1718-ARM
Slots		
Occupied slots		1
Supply		
Connection		Chassis bus
Rated voltage	U_r	Use only in connection with the power supply 1718-PSDC
Ambient Conditions		
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 @ each resonance
Mechanical Specifications		
Connection		Removable front connector with screw terminal (accessory) Wire connection by spring terminals: 0.14...1.5 mm^2 (26...16 AWG) Wire connection by screw terminals: 0.08...1.5 mm^2 (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.)
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 1718-CT001.

Additional Resources

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

Resource	Description
1718 Ex I/O Installation Instructions, publication 1718-IN001	Describes how to install and wire the 1718 Ex I/O input and output modules.
1718 Ex I/O User Manual, publication 1718-UM001	Provides information on using the 1718 Ex I/O modules, chassis, and accessories.
1718 Certification Bulletin, publication 1718-CT001	Provides 1718 Ex I/O certification information and links to control drawings.
EtherNet/IP Network Devices User Manual, ENET-UM006	Describes how to configure and use EtherNet/IP devices to communicate on the EtherNet/IP network.
Ethernet Reference Manual, ENET-RM002	Describes basic Ethernet concepts, infrastructure components, and infrastructure features.
System Security Design Guidelines Reference Manual, SECURE-RM001	Provides guidance on how to conduct security assessments, implement Rockwell Automation products in a secure system, harden the control system, manage user access, and dispose of equipment.
Industrial Components Preventive Maintenance, Enclosures, and Contact Ratings Specifications, publication IC-TD002	Provides a quick reference tool for Allen-Bradley industrial automation controls and assemblies.
Safety Guidelines for the Application, Installation, and Maintenance of Solid-state Control, publication SGI-1.1	Designed to harmonize with NEMA Standards Publication No. ICS 1.1-1987 and provides general guidelines for the application, installation, and maintenance of solid-state control in the form of individual devices or packaged assemblies incorporating solid-state components.
Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1	Provides general guidelines for installing a Rockwell Automation industrial system.
Product Certifications website, rok.auto/certifications.	Provides declarations of conformity, certificates, and other certification details.

You can view or download publications at rok.auto/literature.

Rockwell Automation Support

Use these resources to access support information.

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

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Rockwell Automation maintains current product environmental compliance information on its website at rok.auto/pec.

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