

IP67 EX I IO MODULE

Zones 1, 2, 21, 22

Full catalogue available on our website: www.inpratex.com

ATEX REMOTE IO SOLUTIONS

ZONES 1, 2 (gas) & 21, 22 (dust)



Compact IO module for Ex Zone 1/21 with Profinet or Modbus TCP/IP. The module include busnode, isolating amplifier and 32 intrinsically safe analog and digital IO channels on smallest space. The module can be installed directly in Zone 1/21 and connects sensors and actuators from Zone 0/20.



EU-Type Examination Certificate



ITEM REFERENCES

Designation:	Item No.:
IP67 Ex i IO module	9F0102A

TECHNICAL SPECIFICATIONS

Marking:	II 2(1)G Ex eb mb [ia Ga] IIC T4 Gb II 2(1)D Ex tb [ia Da] IIIC T110°C Db
Certificate:	EU-Type Examination Certificate
Operating temperature:	-40°C to +70°C
Ingress protection:	IP66/67
Power supply	
Operation voltage U_A/U_S :	DC 18...30V
Current module and sensor supply I_S :	DC 450 mA
Current actuator supply I_A :	DC 300 mA
Power dissipation:	max. 15 W
Reverse polarity protection:	Yes
LED Voltage > 18V	Green
LED Undervoltage:	Red
Fieldbus data	
Addressing Profinet:	via DCP
Addressing Modbus TCP/IP:	DHCP or fix
Transfer Rate:	10/100 MBit/s
Delay in signal change:	< 10ms
LED Ethernet status LINK:	Green
LED Ethernet status ACT:	Yellow
LED Modul status:	Green / Red
LED digital output on:	Yellow
LED error detection:	Red
Mechanical data	
Dimensions:	214x214x125 mm
Mounting holes:	Ø 6,5 mm
Mounting space:	200 mm
Mounting position:	Any position
Weight:	Approx. 5400 g
Housing material:	Aluminium (electroplated)
Housing marking:	Laser engraving
Vibration (EN 60068):	20g
Shock (EN 60068):	50g
Cable glands (stainless steel):	M20x1,5 (6-13mm)

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Features

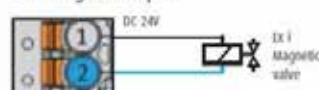
- Fully potted → extreme robust
- Intrinsically safe IO channels
 - 16 DI Namur
 - 8 DO
 - 8 DO(AIO)*
- * Individually adjustable as DO, AI, AO or Switching Mode
- None configuration on module required
- Separate power supply for sensor and actuator
- Comprehensive diagnostics for each channel
 - open load detection
 - pre-fault detection
 - short circuit detection
- Galvanic separation between channel and system
- Internal temperature monitoring
- Operating hour counter

IO variations (X1-X8)

	8 DO(AIO)* 16 DI Namur 8 DO
	*Individually adjustable as DO, AI, AO or Switching Mode
1	DO / AI / AO / Switching Mode(+)
2	GND / Switch Mode(-)
3	DI
4	GND
5	DI
6	GND
7	DO
8	GND

Multifunction of Pin 1

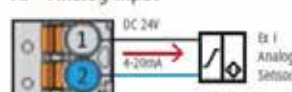
DO - Digital output



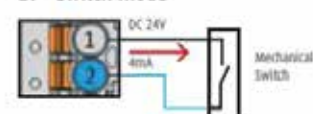
AO - Analog output



AI - Analog input



DI - Switch mode



IO function		Electrical connection	
DI Namur	8,2V (I<1,2mA = off) (I>2,1mA = on)	Earthing / Equipotential bonding via M4 screw and eyelet Cable cross-section	min. 4,0 mm ²
DO (can also be used as power supply)	24V (I _{max} = 25mA)	CAGE PIN® connection technology	
AI and AO	24V 4..20mA (0..25mA)	X1-X8 (pluggable) Inputs / Outputs (Ex i) Cable cross-section	max. 1,5 mm ²
Resolution AI and AO	16 Bit	X9 Power supply (Ex e) Cable cross-section	max. 2,5 mm ²
Measurement deviation (at +25°C)	± 0,1%	X10 Bus (Ex e) Cable cross-section	max. 2,5 mm ²
Ambient temperature influence	± 0,01%/K		
AO to DO	24V (I _{max} = 25mA)		
Switching Mode	24V (I _{max} = 4mA)		

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Approval data					
Max. U _m X9 / X10			DC 60 V		
Terminals			Parameter		
Terminal block X1 to X8			(Output parameters of each Pin, Pins are not allowed to be combined)		
Pin _{26V}	U ₀ = 26 V d.c. I ₀ = 82 mA P ₀ = 533 mW				
	Group IIC				
	L ₀	3 mH	1 mH	0,5 mH	0 mH
	C ₀	42 nF	62 nF	78 nF	99 nF
	Group IIB / III				
	L ₀	20 mH	2 mH	0,5 mH	0 mH
	C ₀	350 nF	350 nF	490 nF	770 nF
Pin _{9,6V}	U ₀ = 9,6 V d.c. I ₀ = 31 mA P ₀ = 75 mW				
	Group IIC				
	L ₀	49 mH	10 mH	1 mH	0 mH
	C ₀	310 nF	640 nF	1,1 nF	3,6 nF
	Group IIB / III				
	L ₀	100 mH	10 mH	1 mH	0 mH
	C ₀	2 μF	3,6 μF	6.1 μF	26 μF
Pin _{GND}			galvanically separated from input GND		

	Pin 1	U ₀ = 26 V d.c.
	Pin 2	GND
	Pin 3	U ₀ = 9,6 V d.c.
	Pin 4	GND
	Pin 5	U ₀ = 9,6 V d.c.
	Pin 6	GND
	Pin 7	U ₀ = 26 V d.c.
	Pin 8	GND