HART analogue universal module for Zone 2/Div. 2

Series 9468/33

- 8 channels can be used individually as inputs or outputs
- Ex ia IIC intrinsically safe inputs/outputs with line fault monitoring
- Module in Zone 2 can be replaced without having to disconnect the power supply (i.e. hot-swapped)

WebCode **9468B**

The 9468/33 HART analogue universal module for Zone 2 has eight channels which can be used separately for Ex i operation of
2-/3-conductor HART transmitters, 4-conductor transmitters or control valves/positioners with 0/4 to 20 mA signals. HART communication is bidirectional. All inputs/outputs are short-circuit proof, galvanically separated from the system and individually monitored to check for line faults.

	IECEx / ATEX					
Zone	0	1	2	20	21	22
Ex interface	•	•	•	•	•	•
Installation in			•			

	NEC® 500 CE Code Appendix J					
	Class I		Class II		Class III	
Division	1	2	1	2	1	2
Ex interface	•	•	•	•	•	•
Installation in		•				

	CE Code Section 18					
	NEC® 505 Class I			NEC® 506		
Zone	0	1	2	20	21	22
Ex interface	•	•	•			
Installation in			•			

Selection Table			
Installation	Zone 2 and safe areas		
Number of channels	Product Type	Art. No.	Weight
8 Ex i inputs/outputs	9468/33-08-10	210660	275 g

Please order terminals separately – see accessories and spare parts

Technical Data	
Explosion Protection	
IECEx gas explosion protection	Ex ec ia [ia Ga] IIC T4 Gc
IECEx dust explosion protection	[Ex ia Da] IIIC
ATEX gas explosion protection	Ⓔx II 3 (1) G Ex ec ia [ia Ga] IIC T4 Gc
ATEX dust explosion protection	Ⓔx II (1) D [Ex ia Da] IIIC
Certificates	ATEX (DEK), Brazil (ULB), Canada (FM), China (NEPSI), IECEx (DEK), India (PESO), Korea (KTL), USA (FM)
Ship approval	ABS, BVIS, EU RO MR (DNV), KR, LR
Declaration of Conformity	ATEX (EUK), China (CCC)
Safety Data	
Max. voltage U_o	24.4 V
Max. current I_o (2-conductor)	80 mA
Max. current I_o (3-conductor)	81.8 mA
Max. power P_o (2-conductor)	488 mW
Max. power P_o (3-conductor)	499 mW

HART analogue universal module for Zone 2/Div. 2

Series 9468/33

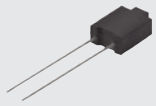
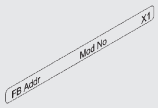
Technical Data

Electrical Data	
Number of channels	8 Ex i inputs/outputs
Channels	Each can be configured as input or output (3-conductor, 4-conductor transmitters or active mA sources occupy 2 channels)
Nominal signal	4 to 20 mA 0 to 20 mA
Supply voltage	16 V, at 20 mA for 2-conductor transmitters
Communication signal	HART protocol
Connection Ex i field signals	Pluggable, blue terminals, 16-pin, 2.5 mm², screw type or cage clamp version with lock
Notes	In order to operate an active 4-conductor HART transmitter, a 9164 must be connected between each channel. A 9164 is not required when operating a 4-conductor transmitter without HART communication.
Auxiliary Power	
Current consumption	220 mA (at 20 mA per channel)
Max. power consumption	5.3 W (at 20 mA/channel)
Max. power dissipation outputs	3.7 W (at 20 mA. 500 Ω/channel)
Max. power dissipation inputs	2.7 W (at 20 mA/channel)
Input	
Max. input resistance	14.1 Ω per channel
Output	
Output max. load resistance	750 ohm at 20 mA 700 Ω at 21.8 mA
Output step response (10 to 90%)	40 ms
Ambient Conditions	
Ambient temperature	-40 °C ... +75 °CObserve operating instructions
Mechanical Data	
Degree of protection (IP) (IEC 60529)	IP20

Accessories

Figure	Description	Art. No.	Weight
Pluggable terminal			
	2.5 mm² with lock, 16-pin, screw connector, blue, for connecting the field signals to I/O modules, for intrinsically safe field circuits Labelling: 1 to 16 Note: A second terminal is additionally required for I/O module Series 9470 and 9482 Labelling: 17 to 32	162702	28 g
	2.5 mm² with lock, 16-pin, spring clamp connection, blue, for connecting the field signals to I/O modules, for intrinsically safe field circuits, incl. test jacks Labelling: 1 to 16 Note: A second terminal is additionally required for I/O module Series 9470 and 9482 Labelling: 17 to 32	162695	28 g
Electronic relay			
	The 9174 electronic relay module makes it possible to switch Ex e loads using intrinsically safe control. Input: Ex i; output: 48 V/2 A DC, Ex e	212340	110 g
mA isolating repeater			
	The mA isolating repeaters are used to connect 4-conductor transmitters to active 2-conductor inputs and for galvanic separation. Input: Sink, Ex e Output: Sink, Ex i	224365	140 g
	The mA isolating repeaters are used to connect 4-conductor transmitters to active 2-conductor inputs and for galvanic separation. Input: Sink, Ex i Output: Sink, Ex i	224364	90 g

Accessories

Figure	Description	Art. No.	Weight
Resistor error message suppression			
	The resistors are used to suppress error messages for unused I/O channels Resistance value: 5K6/0.5 W Suitable for: AIM 9468; UMH 9469; DIOM 9470; DIOM 9471; DIOM 9472; DOM 9475 For intrinsically safe circuits (simple apparatus according to EN 60079-11)	244911	-
	The resistors are used to suppress error messages for unused I/O channels Resistance value: 62R/0.5 W Suitable for: AOM 9468; UMH 9469; DIOM 9472; TIM 9482	244912	-
Partition			
	For mounting between intrinsically safe and non-intrinsically safe connections between I/O modules to maintain a tight string length of 50 mm	220101	10 g
Warning label			
	"Clean modules only with a damp cloth."	162796	1 g
DIN A4 sheet			
	For label plate on I/O modules; 6 plates per sheet; IS Wizard printout; packaging unit = 20 sheets	162832	1 g
Labelling strips			
	"FB Addr … Mod No …" for pluggable terminal, 26 pieces on the sheet	162788	1 g
Vibration bracket set			
	When installed in environments with extreme vibration (> 0.7 g and max. 4 g), the 9490 vibration brackets may be used as an additional measure and provide mechanical stability for the individual modules. For mounting: All I/O modules, except 9477/12 and 9478 Number of brackets in a set: 8 Screws (item no. 275516) must be ordered separately.	271920	-
Set of screws			
	Set of M5 x 14 screws (self-tapping) for 9490 vibration brackets Number of screws in a set: 25	275516	-

Dimensional Drawings (All Dimensions in mm [inches]) – Subject to Alterations