

Product Information Periphery module PM A1802











(valid from 06/2012)

Changes to older versions of this document

Changed in Rev. 5: Temperature range PT100, connectors, new design line

Changed in Rev. 6: information for disposal of old equipment



Description for 2-wire encoders compact periphery module inscription areas for inserting stripe - 8 analog inputs Name 4x 4mA...20mA for customers name AI0 for customers name 4x PT100 supply for analog input 0 analog input 0 (20mA) V(AI1 AI1 analog input 1 (20mA) supply for analog input 1-2 analog outputs V(AI2 Al2 supply for analog input 2analog input 2 (20mA) 2x 4mA...20mA) V(AI3) AI3 supply for analog input 3 analog input 3 (20mA) · Resolution 12 Bit analog input 4 Pt100 + Pt0(+) Pt0(-) analog input 4 Pt100 analog input 5 Pt100 + analog input 5 Pt100 -Pt1(+ Pt1(-) green diagnostic LED analog input 6 Pt100 + analog input 6 Pt100 for each input Pt2(+ Pt2(-) analog input 7 Pt100 + analog input 7 Pt100 -Pt3(+) Pt3(-) analog output 0 analog output 1 red diagnostic LED analog ground M (0V) AO1 analog ground M (0V) for short cut detection or AOO temperature below - 50°C) 0V 0V changeable customized insertion stripe with state-LEDs for analog inputs description field for with your logo before order (Pin1 = analog input 0) every signal off green red signal 1 error cage-clamp connector with signal 1 no (area override) bolt flanges on side in area **INSEVIS-benefit:** This module has an internal supply for the 2-wire encoders (4-20mA). So it is not necessary to care for external supply! 20 mA Actor0 20mA Actor1 If you use these pins 1-4, do not apply external encoder supply! Pt100-2 Pt100-1 20mA 2-wire encoder 3 20mA 2-wire encoder 2 20mA 2-wire encoder 1 20mA 2-wire encoder 0 Figure above: Description and wiring of all connections of periphery module AI8O2 for 2--wire encoders AI8O2 Input AI(0..3) 11..14 Start address: 128 End address: 135 Oh Output PT(0..3)-Start address: 128 470 Ohn End address: General Digital Analog Analog Digital

AO(0,1)

Figure above: Block diagram PM Al8O2 for 2-wire encoders

Backplane

words) in the ConfigStage

Figure above: configuration block of the start-/ end addresses of Al8O2-i/o's (in

Integration time [ms]

0



for 3- / 4-wire encoders Description compact periphery module inscription areas for inserting stripe - 8 analog inputs Name Name 4x 4mA...20mA AI0 for customers name for customers name V(AI0 4x PT100 supply for analog input 0 analog input 0 (20mA) V(AI1 Al1 supply for analog input 1 analog input 1 (20mA) V(AI2) AI2 2 analog outputs analog input 2 (20mA) supply for analog input 2 2x 4mA...20mA V(AI3) AI3 analog input 3 (20mA) supply for analog input 3 analog input 4 Pt100 + Pt0(+ Pt0(-) analog input 4 Pt100 - Resolution 12 Bit analog input 5 Pt100 + analog input 5 Pt100 -Pt1(+) Pt1(-) analog input 6 Pt100 + analog input 6 Pt100 green diagnostic LED Pt2(+ Pt2(-) for each input analog input 7 Pt100 + analog input 7 Pt100 -Pt3(+) Pt3(-) analog output 0 analog output 1 red diagnostic LED analog ground M (0V) A01 analog ground M (0V) A00 for each input for error 0V 0V (short cut detection or temperature below - 50°C) changeable customized state-LEDs for analog inputs with your logo before order (Pin1 = analog input 0) insertion stripe with off red description field for error signal every signal signal 1 no (area override) in area cage-clamp connector with bolt flanges on side Attention! This module has an internal supply for the 2-wire 20mA Actor0 encoders (4-20mA). Pt100-3 Do not connect pins 1-4 when using 3/4-wire encoders! 20mA 3-/ 4-wire encoder 0 Figure above: Description and wiring of all connections of periphery module AI8O2 for 3-/ 4-wire encoders AI8O2 Input V(AI0..3) Start address: 128 3-/4-wire-transducer 135 Oh End address: PT(0..3)+ PT(0..3)-15..18 Output Start address: 128 End address: Analog Digital Converter Digital Analo Converter Load General Backplane AO(0,1) 9,19 Integration time [ms] 0 Figure above: Block diagram PM AI8O2 for 3-/ 4-wire encoders Figure above: configuration block of the start-/ end addresses of Al8O2-i/o's (in

words) in the ConfigStage



Technical data			
Operating temperature range Storage temperature range Dimensions W x H x D (mm) Weight	-20°C +60°C (without condens.) -30°C +80°C 20 x 108 x 70 mm ca. 150 g	Load voltage L+ Current consumption Power dissapation	24V DC (10V 30V DC, connected by device supply) 150 mA (max.) 2 W (max.)
Connection technology	connector with cage clamp technology for cross section up to max. 1,5mm²	Wire length unshielded (max.) shielded (max.)	30 m 100 m
Analog inputs	8	valid voltage between inputs and A-GND (max.)	0 V +24 V DC
Input area (nominal values)	AE 03: 4 mA 20 mA AE 47: PT100 -200°C +300°C	Error message during override metering area	adjustable diagnosis- and limit value alert on request
Under- / override areas	0 mA < 4mA >20 mA 23 mA -243°C<-200°C >+300°C +450°C	Broken wire detection	by overrun / shortfall of metering area
Diagnostic LEDs	4 green: 4-10mA-signal in valid area 4 green: PT100: -50°C 300°C 4 red: override (mA) or short circuit 4 red: PT100-short cut or temperature below ≤ - 50°C no displaying broken wires and open inputs	Access of sensor	unsymmetric against A-GND (single ended) for metering area 4 mA 20 mA 2-wire, symmetric for metering area PT100
Input resistance	120 Ω (typ.) metering area 20 mA 500 Ω (typ.) metering area PT100	Value number format	0000 6C00 (hexadecimal) for metering area 4 mA 20 mA 0,1°C for metering area PT100
Resolution	12 Bit	Integration time	adjustable 17 ms or 20 ms
Metering principle / conversion principle	successive approximation	Specifity (based on input area)	< 1%
Sampling cycle time (typ)	1 ms	Current limitation	50 mA
Analog outputs	2	Value number format	0000 6C00 (hexadecimal) for metering area 4 mA 20 mA
Output area (nominal values)	4 mA 20 mA	Short cut protection	ja
Override area	20 mA 23 mA	Short cut current (typ.)	32 mA
Resolution	12 Bit	Setting time: response time τ (typ)	5 ms
Load resistance against A-GND	420 mA: 500 Ω (max.)	Specifity (based on output area)	< 1%

Ordering data module				
Identification	Order-no.	Packaging unit		
Periphery module Al8O2	PM-AI8O2-02	PU: 1 piece		
Connector 2x10pin with pin markings and bolt flanges on side	E-CONS20A-00	PU: 1 piece		



All devices described in this manual may only be used, built up and operated together with this documentation. Installation, initiation and operation of these devices might only be done by instructed personnel with certified skills, who can prove their ability to install and initiate electrical and mechanical devices, systems and current circuits in a generally accepted and admitted standard.

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Disposal



Do not throw old appliances in the household waste! In the interest of environmental protection, old appliances must be collected separately from unsorted municipal waste. You can find out more about the proper disposal / return of your old appliances must be collected separately from unsorted municipal waste. You can find out more about the proper disposal / return of your old appliance at www.insevis.com/disposal. Attention: The deletion of personal data on the old devices to be disposed of is the responsibility of the end user.

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