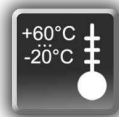
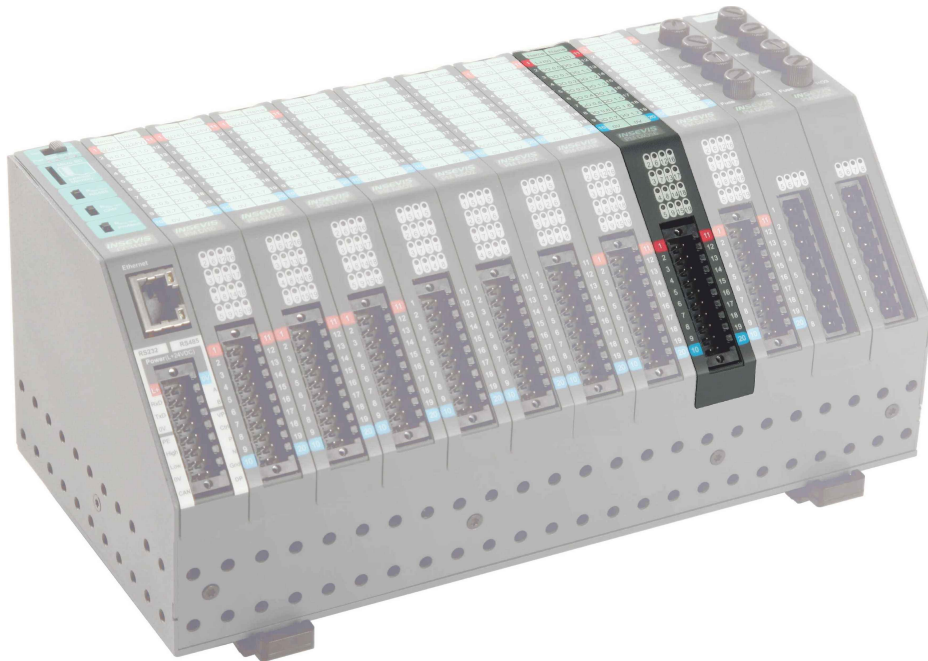


Product Information

Periphery module

PM DIO16



(valid from 06/2012)

Changes to older versions of this document

Changed in Rev. 4:	in-/ output delay times changed
Changed in Rev. 5:	information for a byte wise switching off of all outputs
Changed in Rev. 6:	connectors, new design line
Changed in Rev. 7:	wiring of outputs (2-wire-encoders) corrected

Description

compact peripheral module for **16 digital transistor outputs 24V with back-readable inputs**

- green diagnostic LED for each in-/ output
- insertion stripe with description field for every signal
- cage-clamp connector with 2 lift arms or bolt flanges on side
- **Scope of delivery:**
 - technical information
 - brief instruction

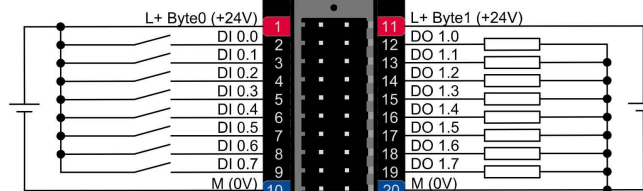
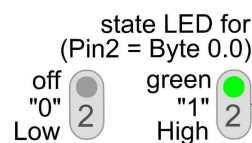
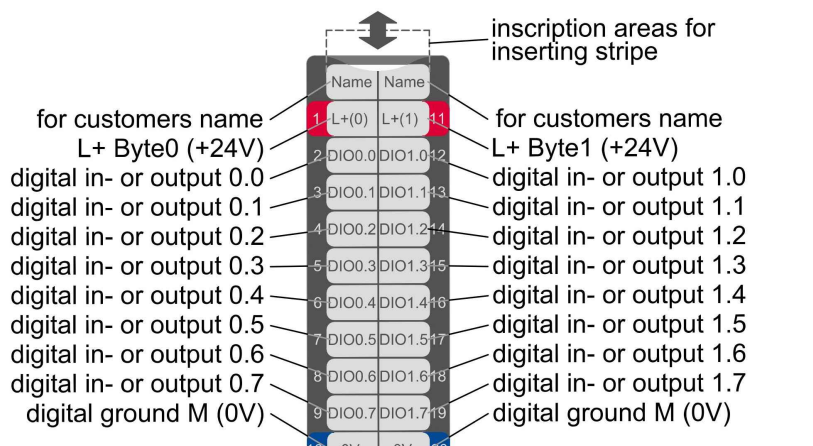
INSEVIS- benefit:

Each single outputs can be switched off, so that you can realize different ratios of I/Os e.g. 10dI and 6dO or 7dI and 9dO. Only the total sum of I/Os must be ≤ 16 .

Attention:

L+supplies of the outputs are separated for each byte (left and right).
 → At a use as outputs only all these outputs can be switched off together by switching off the L+ supply of this byte.
 → If there are used some of these bits as inputs, they may not have applied a voltage (24V) while switching off.

application for 2-wire switches



sample: all bits of byte 0 as input

sample: all bits of byte 1 as output

above: Description and wiring of DIO16 for 2-wire switches

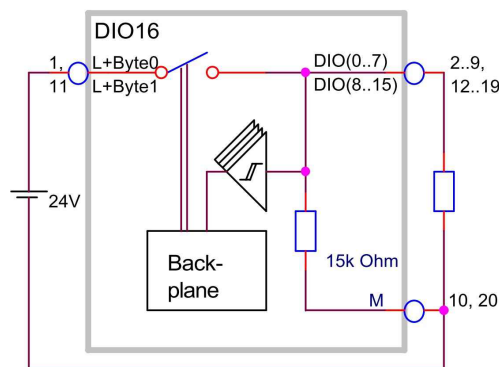
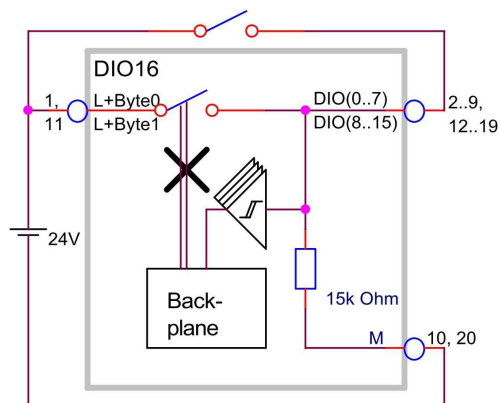


diagram of DIO16 (as backreadable output)



Block diagram of DIO16 (as input only)

Input	
Start address:	0
End address:	1

Output	
Start address:	0
End address:	1

Mode	
Channel 0.0	<input checked="" type="checkbox"/> Disable the output
Channel 0.1	<input checked="" type="checkbox"/>
Channel 0.2	<input checked="" type="checkbox"/>
Channel 0.3	<input checked="" type="checkbox"/>
Channel 0.4	<input checked="" type="checkbox"/>
Channel 0.5	<input checked="" type="checkbox"/>
Channel 0.6	<input checked="" type="checkbox"/>
Channel 0.7	<input checked="" type="checkbox"/>
Channel 1.0	<input type="checkbox"/>
Channel 1.1	<input type="checkbox"/>
Channel 1.2	<input type="checkbox"/>
Channel 1.3	<input type="checkbox"/>
Channel 1.4	<input type="checkbox"/>
Channel 1.5	<input type="checkbox"/>
Channel 1.6	<input type="checkbox"/>
Channel 1.7	<input type="checkbox"/>

configuration block of DIO16 -in-/outputs (in byte) in the ConfigStage

Description

compact periphery module for **16 digital transistor outputs 24V with back-readable inputs**

- green diagnostic LED for each in-/ output
- insertion stripe with description field for every signal
- cage-clamp connector with 2 lift arms or bolt flanges on side
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Each single outputs can be switched off, so that you can realize different ratios of I/Os e.g. 10dI and 6dO or 7dI and 9dO. Only the total sum of I/Os must be ≤16.

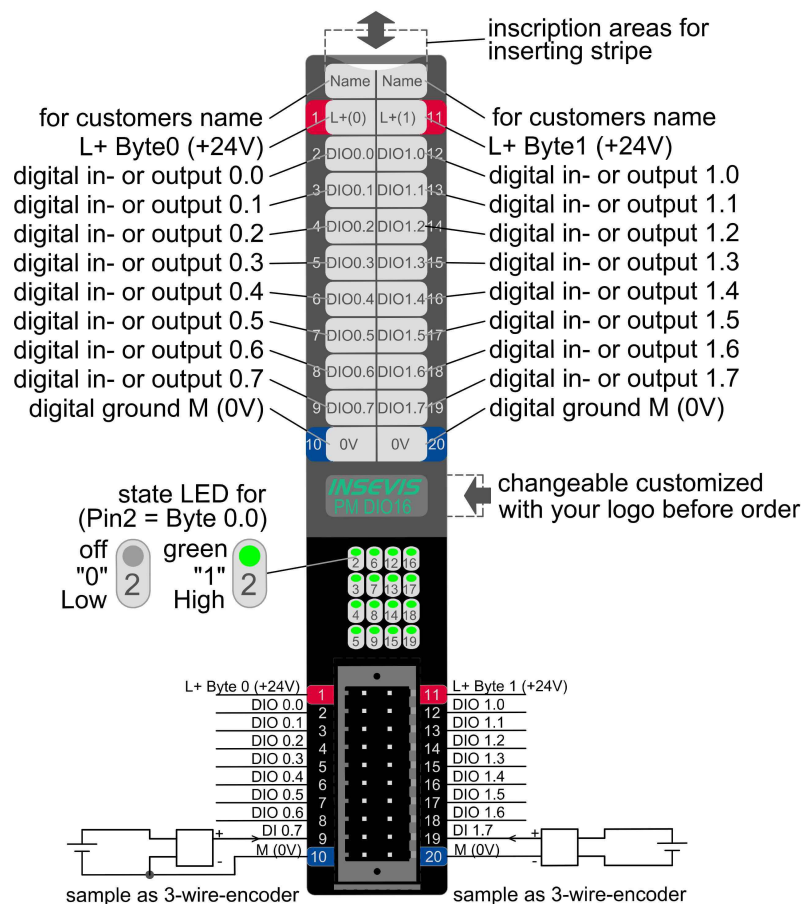
Attention:

L+supplies of the outputs are separated for each byte (left and right).

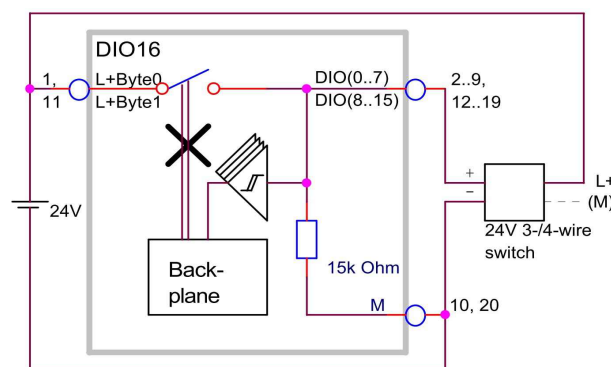
→ At a use as outputs only all these outputs can be switched off together by switching off the L+ supply of this byte.

→ If there are used some of these bits as inputs, they may not have applied a voltage (24V) while switching off.

Application with 3- or 4-wire switches



above: Description and wiring of DIO16 for 3-/ 4-wire switches



Block diagram of DIO16 for 3- or 4-wire switches

Input	
Start address:	0
End address:	1

Output	
Start address:	0
End address:	1

Mode	
Channel 0.0	<input type="checkbox"/> Disable the output
Channel 0.1	<input type="checkbox"/>
Channel 0.2	<input type="checkbox"/>
Channel 0.3	<input type="checkbox"/>
Channel 0.4	<input type="checkbox"/>
Channel 0.5	<input type="checkbox"/>
Channel 0.6	<input type="checkbox"/>
Channel 0.7	<input checked="" type="checkbox"/>
Channel 1.0	<input type="checkbox"/>
Channel 1.1	<input type="checkbox"/>
Channel 1.2	<input type="checkbox"/>
Channel 1.3	<input type="checkbox"/>
Channel 1.4	<input type="checkbox"/>
Channel 1.5	<input type="checkbox"/>
Channel 1.6	<input type="checkbox"/>
Channel 1.7	<input checked="" type="checkbox"/>

configuration block of DIO16 -in-/outputs (in byte) in the ConfigStage

Technical data	
Dimensions W x H x D (mm) Weight	20 x 108 x 70 mm ca. 150 g
Operating temperature range Storage temperature range	-20°C ... +60°C (without condensation) -30°C ... +80°C
Connection technology	connector with cage clamp technology for cross section up to max. 1,5mm ²
Load voltage L+ Current consumption Power dissipation	10 V ... 30 V DC 50 mA (without load) internal limited
Wire length unshielded (max.) shielded (max.)	30 m 100 m

Digital in-/ outputs Diagnostic LEDs	16 in- or outputs (adjustable by software) 16, green		
Output current for signal 0 for signal 1 Cumulated current per output-byte	0,5 mA (max.) 0,5 A (max. bis 60°C) 3 A (max. bis 60°C)	Input current for signal 1	1 mA (typ.)
Signal level of outputs for signal 0 for signal 1	1,0 V at 500 Ω (max.) L+ - 1,0 V at 0,5 A load (min.)	Input voltage for signal 0 for signal 1	0V ... +5 V +7,5V ... +30 V
Input delay Output delay	50 μs (typ.) 30 μs (typ., without load)	Input delay Output delay Sampling cycle time	1,5 ms (typ.) 4,6 ms (typ.) synchronous to cycle
Max. switching frequency with ohmic load	100 Hz		
Broken wire detection Error diagnostic Potential separation to PLC	no no		

Ordering data module		
Identification	Order-no.	Packaging unit
Periphery module DIO16	PM-DIO16-02	PU: 1 pieces

Ordering data accessoires		
Identification	Order-no.	Packaging unit
Connector 2x10pin with pin markings and lift arms on side	E-CON20D-00	PU: 1 piece
Connector 2x10pin with pin markings and bolt flanges on side	E-CONS20D-00	PU: 1 piece
Spare part: Inserting stripe for description fields, 2x11 fields *	E-LABES22-00	PU: 20 pieces
Inserting stripe V for logo and identification for rear side *	E-LABV-00	PU: 100 pieces

* (1x already part of first deliveries scope)

Qualified personnel

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.

Manuals, sample programs

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