

PLUG-IN CARDS

OMR 700

- INPUT CARDS
- OUTPUT CARDS
- POWER SUPPLY CARDS





ORBIT MERRET, spol. s r.o.

Vodňanská 675/30

198 00 Praha 9

Czech Republic

Telefon +420 281 040 200

Telefax +420 281 040 299

orbit@merret.eu

www.orbit.merret.eu



INPUT CARDS	ANALOGUE	IN.01	3x Universal input, isolated	5	
		IN.02	4x Current/voltage input, isolated	7	
		IN.03	4x Input for Pt 50/100/500/1 000, Cu 50/100, Ni 1 000/10 000, isolated	9	
		IN.04	4x Input for thermocouples J/K/T/E/B/S/R/N/L, isolated	11	
		IN.05	5x Input for Pt 50/100/500/1 000, Cu 50/100, Ni 1 000/10 000	13	
		IN.06	12x Current input	15	
		IN.07	12x Voltage input	17	
		IN.08	2x Input for strain gauges with load cell bridge excitation, isolated	19	
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		DIGITAL	IN.11	8x Analogue/digital input	27
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OUTPUT CARDS	DIGITAL	OUT.01	4x Relay with switch-over contact	33	
		OUT.02	8x Relay with switch-on contact	35	
		OUT.03	8x Open collector, NPN	37	
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ANALOGUE	A0.01	2x Analogue output, isolated	45		
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DATA	D0.01	PROFIBUS DP	49		
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SENSOR SUPPLY CARDS	ANALOGUE	PS.01	2x Sensor excitation 12/24 VDC, 2 W	53	
		PS.02	4x Sensor excitation 12/24 VDC, 1 W	55	

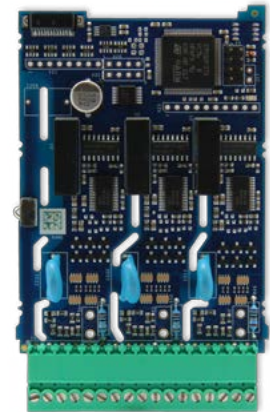
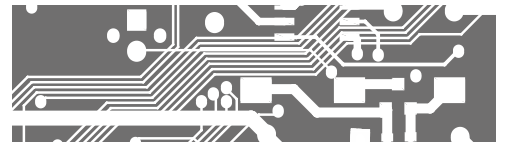
IN.01

3x UNIVERSAL INPUT - ISOLATED



UNIVERSAL INPUT

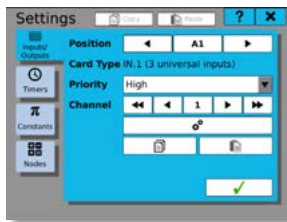
DC	±60/±150/±300/±1 200 mV
PM	0...5 mA/0...20 mA/4...20 mA/±5 mA/±20 mA 0...2 V/0...5 V/0...10 V/0...40 V/±2 V/±5 V/±10 V/±40 V
OHM	0...100 Ω/0...300 Ω/0...1 kΩ/0...3 kΩ/0...10 kΩ/0...30 kΩ
Pt	Pt 50/Pt 100/Pt 500/Pt 1 000
Ni	Ni 1 000/Ni 10 000
Cu	Cu 50/Cu 100
T/C	J/K/T/E/B/S/R/N/L
DU	Linear potentiometer



CARD SETTINGS



THE FOLLOWING PARAMETERS ARE EDITED IN THE SETTING

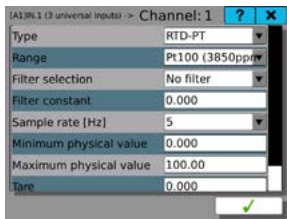


Select the **Position of the card** to be set. Use buttons ◀ ▶ to scroll among the fitted cards.

Type of the card fitted in the specified position

Data transfer **priority** of the selected card. Bigger number of plugged-in cards slows down data flow on the bus. It can be optimized by setting priorities. The real value of the data flow can be then controlled in diagnostics. The maximum achievable data flow in slots A is 1100 frames/s, in slots B 550 frames/s.

Channel to be set. Use buttons ◀◀ ▶▶ to scroll among the channels. Number of possible selectable channels is determined by the card, which is being set



Button ⚙️ is used to navigate to the settings of the selected channel.

!
When changing measurement type, the new selection must be stored first (button ✓). Only then further items can be edited.

Type	DC V-A meter ▶ Process monitor ▶ Ohmmeter ▶ Thermometer Pt xxx ▶ Thermometer Cu xxx ▶ Thermom. Ni xxx ▶ Thermom. T/C ▶ Lin. potentiom.
Range	DC 0...60 mV ▶ 0...150 mV ▶ 0...300 mV ▶ 0...1200 mV ▶ ±60 mV ▶ ±150 mV ▶ ±300 mV ▶ ±1 200 mV PM 0...5 mA ▶ 0...20 mA ▶ 4...20 mA ▶ ±5 mA ▶ ±20 mA ▶ 0...2 V ▶ 0...5 V ▶ 0...10 V ▶ 0...40 V ▶ ±2 V ▶ ±5 V ▶ ±10 V ▶ ±40 V OHM 100 Ω ▶ 300 Ω ▶ 1 kΩ ▶ 10 kΩ ▶ 10 kΩ ▶ 30 kΩ Pt Pt 50-3580 ▶ Pt 100-3580 ▶ Pt 500-3580 ▶ Pt 1 000-3580 Cu Cu 50-4280 ▶ Cu 100-4280 Ni Ni 1000-6180 ▶ Ni 10000-6180 T/C J ▶ K ▶ T ▶ E ▶ B ▶ S ▶ R ▶ N ▶ L DU Lin. potent.
Filter selection	Floating floating arithmetic average of the number of measured values Exponential integration filter of the first order with a time constant measurement
Filtr constant	Indicates the size of the filter
Sampling frequency	5...320 Hz sampling frequency of A/D transmitter
Min. physic. values	value that corresponds to the minimum selected range of the input values
Max. physic. values	value that corresponds to the maximum selected range of input values
Tare	to reset the values by non-zero input signals

* In temperature measurements (Pt, Ni, Cu, T/C) the conversion to a physical value (temperature) is carried out by the sensor regardless of the values.

INSTALLATION OF A NEW CARD

When installing a new card, always make sure the device is disconnected from the power supply!

1. Remove the back cover and break off the blinder of a vacant card position. It is recommended to place analogue cards into faster slots in column „A“ (Speed of the bus: Slot „A“ 1 ms, Slot „B“ 2 ms).
2. Remove the card from the shipping container and from the ESD packaging and insert it carefully into the selected slot until you feel a gentle snap
3. Replace the back cover and turn the device on
4. Setting of the card is described in the preceding paragraph

IN.01

TECHNICAL DATA

INPUTS

Number	3, isolated			
DC	Range	0...60/150/300/1200 mV	>10 MΩ	3
		±60 mV/±150 mV/±150 mV	>10 MΩ	3
		±1200 mV	>10 MΩ	3
PM	Range	0...5 mA/0...20 mA/4...20 mA	10 Ω	1
		±5 mA/±20 mA	10 Ω	1
		0...2 V/0...5 V/0...10 V/0...40 V	>0,5 MΩ	2
		±2 V/±5 V/±10 V/±40 V	>10 MΩ	2
OHM	Range	0...100 Ω/0...300 Ω		5
		0...1 kΩ/0...3 kΩ /0...10 kΩ/0...30 kΩ		
	Connection*	2, 3 or 4 wire		
Pt	Type	Pt 100/500/1 000 Ω - 3 850 ppm	-50°...450°C	5
		Connection*	2, 3 or 4 wire	
Ni	Type	Ni 1 000/ Ni 10 000 - 6 180 ppm/°C	-200°...250°C	5
		Connection*	2, 3 or 4 wire	
Cu	Type	Cu 50/ Cu 100 - 4 280 ppm/°C	-200°...200°C	5
		Connection*	2, 3 or 4 wire	
TC	Type	J (Fe-CuNi)	-200°...900°C	3
		K (NiCr-Ni)	-200°...1 300°C	
		T (Cu-CuNi)	-200°...400°C	
		E (NiCr-CuNi)	-200°...690°C	
		B (PtRh30-PtRh6)	300°...1 820°C	
		S (PtRh10-Pt)	-50°...1 760°C	
		R (Pt13Rh-Pt)	-50°...1 740°C	
		N (Omegalloy)	-200°...1 300°C	
		L (Fe-CuNi)	-200°...900°C	
		DU	Lin. potentiom. power supply	2,5 VDC/6 mA

* When using inputs in 2-wire or 3-wire connection, it is essential to connect unused inputs on the terminal board using jumpers (2w • E+/S+, E-/S-, 3w • E-/S-)

TECHNICAL SPECIFICATION

TC	50 ppm/°C
Accuracy	±0,15 % of range (valid for 10 measur./s)
Rate	5...320 measurements/s
Overload capacity	10x (t < 100 ms), 2x
Digital filters	Floating average, Exponential average
Compen. of conduct	max. 40 Ω/100 Ω
Cold junction compensation (CJC)	automatic
Watch-dog	reset after 500 ms
Calibration	at 25°C and 40 % r.h.

POWER SUPPLY

Power supply	5 VDC, 24 VDC
Consumption	max. 150 mA

MECHANIC PROPERTIES

Dimensions	65 x 98 mm
Installation	to OMR 700

OPERATING CONDITIONS

Connection	connector terminal board, cross section < 1,5 mm ²
Working temperature	-20°...60°C
Storage temperature	-20°...85°C
IP rating	IP00
Construction	safety class I
El. safety	EN 61010-1, A2
Dielectric strength	2,5 kVAC over 1 min between bus and inputs 1 kVAC over 1 min between inputs
Insulation resistance*	for pollution degree II, measuring cat. III. Input/Bus - 300 V (PI), 150 (DI) Input/Input - 150 V (PI), 100 (DI)
EMC	EN 61326-1 (Industrial use)
Seismic resistance	IEC 980: 1993, par.6

* PI - Primary insulation, DI - Double insulation

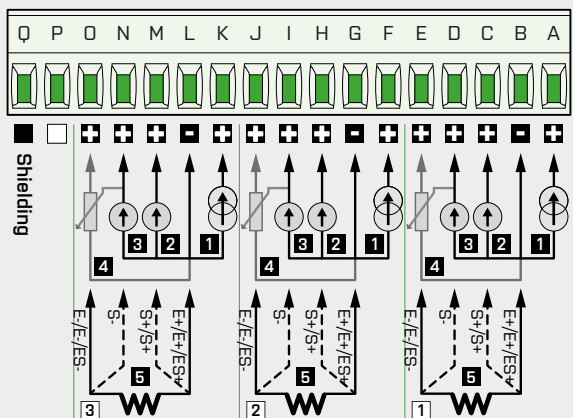
IN.01

CONNECTION

IN.01

ORDER CODE

IN.1



- 1 PM: 0...5/20 mA/4...20 mA
- 2 PM: ±2 V/±5 V/±10 V/±40 V
- 3 DC: ±60/±150/±300/±1 200 mV
T/C: J/K/T/E/B/S/R/N/L
- 4 DU: Lin. potentiometer (> 500 Ω)
- 5 OHM: 0...0,1/1/10/30 kΩ/Auto
RTD: Pt 50/100/500/1 000
Cu: Cu 50/100
Ni: Ni 1 000/10 000

IN.01

Specifications Used only for customised versions



ORBIT MERRET, spol. s r. o.
Vodňanská 675/30
198 00 Praha 9
Czech republic

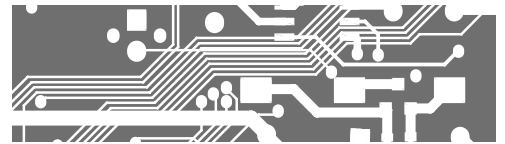
tel.: +420 281 040 200
fax.: +420 281 040 299

orbit@merret.eu
www.orbit.merret.eu



IN.02

4x CURRENT/VOLTAGE INPUT, ISOLATED



DC CURRENT/VOLTAGE INPUT

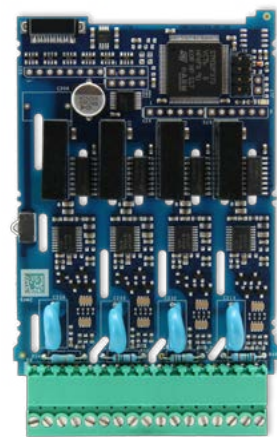
PM 0...5 mA/0...20 mA/4...20 mA
 ±5 mA/±20 mA
 0...2 V/0...5 V/0...10 V/0...40 V
 ±2 V/±5 V/±10 V/±40 V

RATE

< 320 measurements/s

ACCURACY

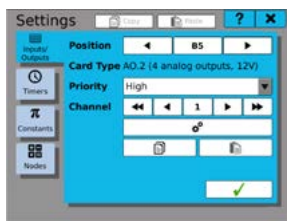
0,2 % of range



CARD SETTINGS



THE FOLLOWING PARAMETERS ARE EDITED IN THE SETTING

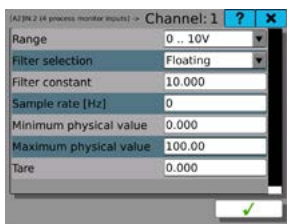


Select the **Position of the card** to be set. Use buttons ◀ ▶ to scroll among the fitted cards.

Type of the card fitted in the specified position

Data transfer **priority** of the selected card. Bigger number of plugged-in cards slows down data flow on the bus. It can be optimized by setting priorities. The real value of the data flow can be then controlled in diagnostics. The maximum achievable data flow in slots A is 1100 frames/s, in slots B 550 frames/s.

Channel to be set. Use buttons ◀◀ ▶▶ to scroll among the channels. Number of possible selectable channels is determined by the card, which is being set



Button ⚙️ is used to navigate to the settings of the selected channel.

Range	PM 0...5 mA ▶ 0...20 mA ▶ 4...20 mA ▶ ±20 mA ▶ ±20 mA ▶ 0...2 V ▶ 0...5 V ▶ 0...10 V ▶ 0...40 V ▶ ±2 V ▶ ±5 V ▶ ±10 V ▶ ±40 V
Filter selection	Floating floating arithmetic average of the number of measured values Exponential integration filter of the first order with a time constant measurement
Filter constant	Indicates the size of the filter
Sampling frequency	5...320 Hz sampling frequency of A/D transmitter
Min. physic. values	value that corresponds to the minimum selected range of the input values
Max. physic. values	value that corresponds to the maximum selected range of input values
Tare	to reset the values by non-zero input signals

INSTALLATION OF A NEW CARD

When installing a new card, always make sure the device is disconnected from the power supply!

1. Remove the back cover and break off the blinder of a vacant card position. It is recommended to place analogue cards into faster slots in column „A“ (Speed of the bus: Slot „A“ 1 ms, Slot „B“ 2 ms).
2. Remove the card from the shipping container and from the ESD packaging and insert it carefully into the selected slot until you feel a gentle snap
3. Replace the back cover and turn the device on
4. Setting of the card is described in the preceding paragraph

IN.02

TECHNICAL DATA

INPUTS

Number	4, isolated			
PM	Range	0...5 mA/0...20 mA/4...20 mA	15 Ω	1
		±5 mA/±20 mA	15 Ω	1
		0...2 V/0...5 V/0...10 V/0...40 V	> 10 MΩ	2
		±2 V/±5 V/±10 V/±40 V	> 10 MΩ	2

TECHNICAL SPECIFICATION

TC	50 ppm/°C
Accuracy	±0,2 % of range (valid for 10 measur./s)
Rate	5...320 measurements/s
Overload capacity	10x (t < 100 ms), 2x
Digital filters	Floating average, Exponential average
Watch-dog	reset after 500 ms
Calibration	at 25°C and 40 % r.h.

POWER SUPPLY

Power supply	5 VDC, 24 VDC
Consumption	max. 150 mA

MECHANIC PROPERTIES

Dimensions	65 x 98 mm
Installation	to OMR 700

OPERATING CONDITIONS

Connection	connector terminal board, cross section < 1,5 mm ²
Working temperature	-20°...60°C
Storage temperature	-20°...85°C
IP rating	IP00
Construction	safety class I
El. safety	EN 61010-1, A2
Dielectric strength	2,5 kVAC over 1 min between bus and inputs 1 kVAC over 1 min between inputs
Insulation resistance*	for pollution degree II, measuring cat. III. Input/Bus - 300 V (PI), 150 (DI) Input/Input - 150 V (PI), 100 (DI)
EMC	EN 61326-1 (Industrial use)
Seismic resistance	IEC 980: 1993, par.6

* PI - Primary insulation, DI - Double insulation

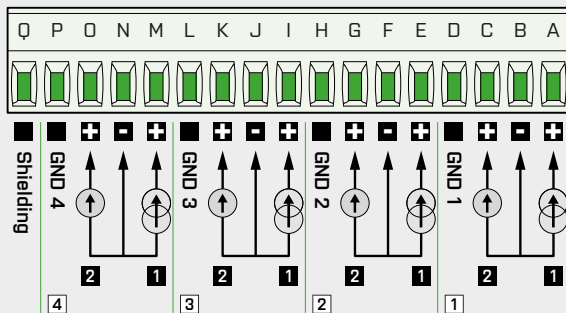
IN.02

CONNECTION

IN.02

ORDER CODE

IN.2



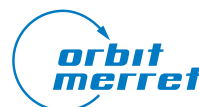
- 1** DC - I: ±5/±20 mA, 0...20/4...20 mA
- 2** DC - U: ±2/±5/±10/±40 V, 0...2/5/10/40 V

IN.02

Specifications Used only for customised versions



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ORBIT MERRET, spol. s r. o.
Vodňanská 675/30
198 00 Praha 9
Czech republic

tel.: +420 281 040 200
fax.: +420 281 040 299
orbit@merret.eu
www.orbit.merret.eu



IN.03

4x INPUT FOR Pt xxxx, Cu xxx, Ni xxxx, ISOLATED



INPUT FOR RESISTIVE SENSORS

OHM 0...100 Ω / 0...300 Ω / 0...1 kΩ / 0...3 kΩ / 0...10 kΩ / 0...30 kΩ

Pt Pt 50 / Pt 100 / Pt 500 / Pt 1 000

Ni Ni 1 000 / Ni 10 000

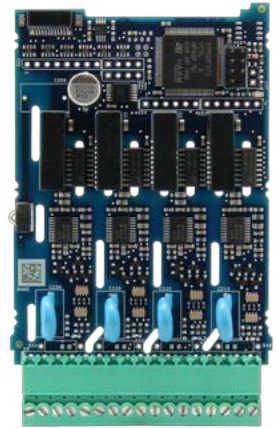
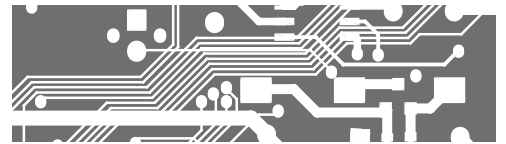
Cu Cu 50 / Cu 100

RATE

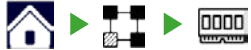
< 320 measurements/s

ACCURACY

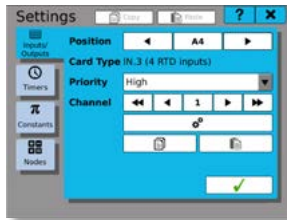
0,2 % of range



CARD SETTINGS



THE FOLLOWING PARAMETERS ARE EDITED IN THE SETTING

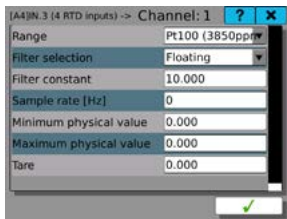


Select the **Position of the card** to be set. Use buttons ◀ ▶ to scroll among the fitted cards.

Type of the card fitted in the specified position

Data transfer **priority** of the selected card. Bigger number of plugged-in cards slows down data flow on the bus. It can be optimized by setting priorities. The real value of the data flow can be then controlled in diagnostics. The maximum achievable data flow in slots A is 1100 frames/s, in slots B 550 frames/s.

Channel to be set. Use buttons ◀◀ ▶▶ to scroll among the channels. Number of possible selectable channels is determined by the card, which is being set



Button ⚙️ is used to navigate to the settings of the selected channel.

Type	Ohmmeter ▶ Thermom. Pt xxx ▶ Thermom. Cu xxx ▶ Thermometer Ni xxxx
Range	OHM 100 Ω ▶ 300 Ω ▶ 1 kΩ ▶ 3 kΩ ▶ 10 kΩ ▶ 30 kΩ Pt Pt 50-3580 ▶ Pt 100-3580 ▶ Pt 500-3580 ▶ Pt 1000-3580 Cu Cu 50-4280 ▶ Cu 100-4280 Ni Ni 1000-6180 ▶ Ni 10000-6180
Filter selection	Floating floating arithmetic average of the number of measured values Exponential integration filter of the first order with a time constant measurement
Filter constant	Indicates the size of the filter
Sampling frequency	5...320 Hz sampling frequency of A/D transmitter
Min. physic. values*	value that corresponds to the minimum selected range of the input values
Max. physic. values*	value that corresponds to the maximum selected range of the input values
Tare*	to reset the values by non-zero input signals

* In temperature measurements (Pt, Ni, Cu, T/C) the conversion to a physical value (temperature) is carried out by the sensor regardless of the values.

INSTALLATION OF A NEW CARD

When installing a new card, always make sure the device is disconnected from the power supply!

1. Remove the back cover and break off the blinder of a vacant card position. It is recommended to place analogue cards into faster slots in column „A“ (Speed of the bus: Slot „A“ 1 ms, Slot „B“ 2 ms).
2. Remove the card from the shipping container and from the ESD packaging and insert it carefully into the selected slot until you feel a gentle snap
3. Replace the back cover and turn the device on
4. Setting of the card is described in the preceding paragraph

IN.03

TECHNICAL DATA

INPUTS

Number	4, isolated	
OHM	Range	0...100 Ω/0...300 Ω 0...1 kΩ/0...1 kΩ/0...3 kΩ/0...10 kΩ/0...30 kΩ
	Connection*	2 or 3 wire
Pt	Type	Pt 100/500/1 000 Ω, s 3 850 ppm -50°...450°C
	Connection*	2 or 3 wire
Ni	Type	Ni 1 000/Ni 10 000 s 6 180 ppm/°C -200°...250°C
	Connection*	2 or 3 wire
Cu	Type	Cu 50/Cu 100 s 4 280 ppm/°C -200°...200°C
	Connection*	2 or 3 wire

* In case of measurements with 2-wire connection it is necessary to connect the unused inputs [2d • E+ / S+, E- / S-].

TECHNICAL SPECIFICATION

TC	50 ppm/°C
Accuracy	±0,2 % of range (valid for 10 measur./s)
Rate	5...320 measurements/s
Overload capacity	10x (t < 100 ms), 2x
Digital filters	Floating average, Exponential average
Compen. of conduct	max. 40 Ω/100 Ω
Watch-dog	reset after 500 ms
Calibration	at 25°C and 40 % r.h.

POWER SUPPLY

Power supply	5 VDC, 24 VDC
Consumption	max. 150 mA

MECHANIC PROPERTIES

Dimensions	65 x 98 mm
Installation	to OMR 700

OPERATING CONDITIONS

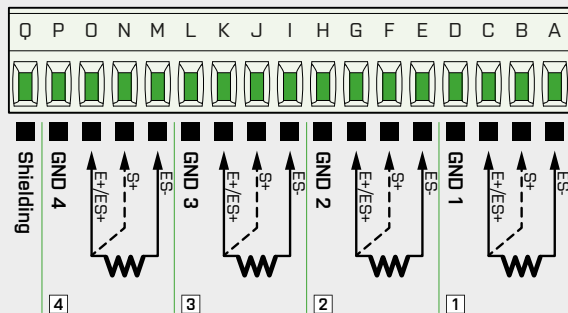
Connection	connector terminal board, cross section < 1,5 mm ²
Working temperature	-20°...60°C
Storage temperature	-20°...85°C
IP rating	IP00
Construction	safety class I
El. safety	EN 61010-1, A2
Dielectric strength	2,5 kVAC over 1 min between bus and inputs 1 kVAC over 1 min between inputs
Insulation resistance*	for pollution degree II, measuring cat. III. Input/Bus - 300 V (PI), 150 (DI) Input/Input - 150 V (PI), 100 (DI)
EMC	EN 61326-1 (Industrial use)
Seismic resistance	IEC 980: 1993, čl.6

* PI - Primary insulation, DI - Double insulation

IN.03

CONNECTION

IN.03



OHM: 0...0,1/0,3/1/3/10/30 kΩ
 RTD: Pt 50/100/500/1 000
 Cu: Cu 50/100
 Ni: Ni 1 000/10 000

IN.03

ORDER CODE

IN.03

Specifications Used only for customised versions



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ORBIT MERRET, spol. s r. o.
 Vodňanská 675/30
 198 00 Praha 9
 Czech republic

tel.: +420 281 040 200

fax.: +420 281 040 299

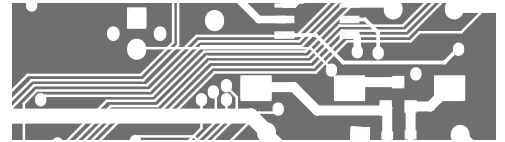
orbit@merret.eu

www.orbit.merret.eu



IN.04

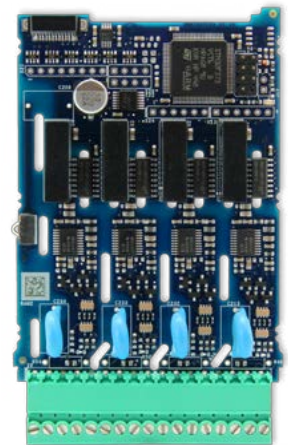
4x INPUT FOR THERMOCOUPLES, ISOLATED



INPUT FOR THERMOCOUPLES
T/C J/K/T/E/B/S/R/N/L

RATE
< 320 measurements/s

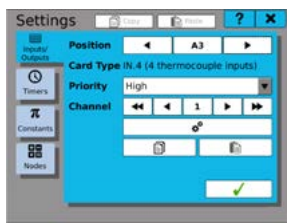
ACCURACY
0,2 % of range



CARD SETTINGS



THE FOLLOWING PARAMETERS ARE EDITED IN THE SETTING

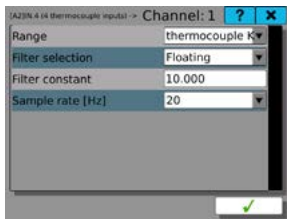


Select the **Position of the card** to be set. Use buttons ◀ ▶ to scroll among the fitted cards.

Type of the card fitted in the specified position

Data transfer **priority** of the selected card. Bigger number of plugged-in cards slows down data flow on the bus. It can be optimized by setting priorities. The real value of the data flow can be then controlled in diagnostics. The maximum achievable data flow in slots A is 1100 frames/s, in slots B 550 frames/s.

Channel to be set. Use buttons ◀◀ ▶▶ to scroll among the channels. Number of possible selectable channels is determined by the card, which is being set



Button ⚙️ is used to navigate to the settings of the selected channel.

Range	T/C J ▶ K ▶ T ▶ E ▶ B ▶ S ▶ R ▶ N ▶ L
Filter selection	Floating floating arithmetic average of the number of measured values Exponential integration filter of the first order with a time constant measurement
Filter constant	Indicates the size of the filter
Sampling frequency	5...320 Hz sampling frequency of A/D transmitter

INSTALLATION OF A NEW CARD

When installing a new card, always make sure the device is disconnected from the power supply!

1. Remove the back cover and break off the blinder of a vacant card position. It is recommended to place analogue cards into faster slots in column „A“ (Speed of the bus: Slot „A“ 1 ms, Slot „B“ 2 ms).
2. Remove the card from the shipping container and from the ESD packaging and insert it carefully into the selected slot until you feel a gentle snap
3. Replace the back cover and turn the device on
4. Setting of the card is described in the preceding paragraph

IN.04

TECHNICAL DATA

INPUTS

Number	4, isolated		
TC	Type		
	J (Fe-CuNi)		-200...900°C
	K (NiCr-Ni)		-200...1300°C
	T (Cu-CuNi)		-200...400°C
	E (NiCr-CuNi)		-200...690°C
	B (PtRh30-PtRh6)		300...1820°C
	S (PtRh10-Pt)		-50...1760°C
	R (Pt13Rh-Pt)		-50...1740°C
	N (Omegalloy)		-200...1300°C
	L (Fe-CuNi)		-200...900°C

TECHNICAL SPECIFICATION

TC	50 ppm/°C
Accuracy	±0,2 % of range (valid for 10 measur./s)
Rate	5...320 measurements/s
Overload capacity	10x (t < 100 ms), 2x
Digital filters	Floating average, Exponential average
Cold junction compensation (CJC)	automatic
Watch-dog	reset after 500 ms
Calibration	at 25°C and 40 % r.h.

POWER SUPPLY

Power supply	5 VDC, 24 VDC
Consumption	max. 150 mA

MECHANIC PROPERTIES

Dimensions	65 x 98 mm
Installation	to OMR 700

OPERATING CONDITIONS

Connection	connector terminal board, cross section < 1,5 mm ²
Working temperature	-20°...60°C
Storage temperature	-20°...85°C
IP rating	IP00
Construction	safety class I
El. safety	EN 61010-1, A2
Dielectric strength	2,5 kVAC over 1 min between bus and inputs 1 kVAC over 1 min between inputs
Insulation resistance*	for pollution degree II, measuring cat. III. Input/Bus - 300 V (PI), 150 (DI) Input/Input - 150 V (PI), 100 (DI)
EMC	EN 61326-1 (Industrial use)
Seismic resistance	IEC 980: 1993, čl.6

* PI - Primary insulation, DI - Double insulation

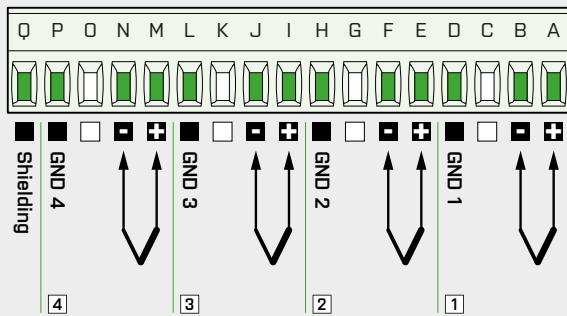
IN.04

CONNECTION

IN.04

ORDER CODE

IN.4



T/C: J/K/T/E/B/S/R/N/L

IN.04

Specifications Used only for customised versions



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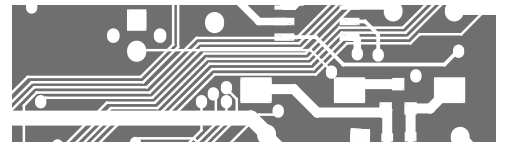
ORBIT MERRET, spol. s r. o.
Vodňanská 675/30
198 00 Praha 9
Czech republic

tel.: +420 281 040 200
fax.: +420 281 040 299
orbit@merret.eu
www.orbit.merret.eu



IN.05

5x INPUT FOR Pt xxxx, Cu xxx, Ni xxxx



INPUT FOR RESISTIVE SENSORS

OHM 0...100 Ω/0...300 Ω/0...1 kΩ/0...3 kΩ/0...10 kΩ/0...30 kΩ

Pt Pt 50/Pt 100/Pt 500/Pt 1 000

Ni Ni 1 000/Ni 10 000

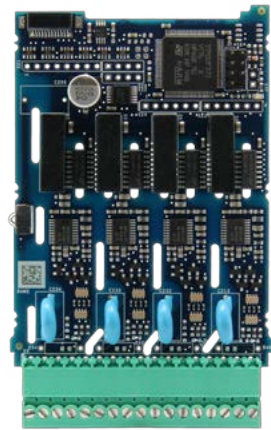
Cu Cu 50/Cu 100

RATE

< 320 measurements/s

ACCURACY

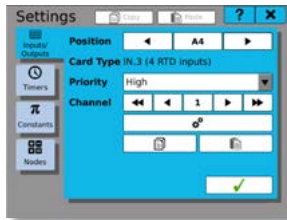
0,2 % of range



CARD SETTINGS



THE FOLLOWING PARAMETERS ARE EDITED IN THE SETTING

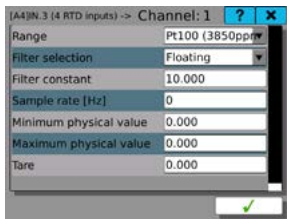


Select the **Position of the card** to be set. Use buttons ◀ ▶ to scroll among the fitted cards.

Type of the card fitted in the specified position

Data transfer **priority** of the selected card. Bigger number of plugged-in cards slows down data flow on the bus. It can be optimized by setting priorities. The real value of the data flow can be then controlled in diagnostics. The maximum achievable data flow in slots A is 1100 frames/s, in slots B 550 frames/s.

Channel to be set. Use buttons ◀◀ ▶▶ to scroll among the channels. Number of possible selectable channels is determined by the card, which is being set



Button ⚙️ is used to navigate to the settings of the selected channel.

Type	Ohmmeter ▶ Thermom. Pt xxx ▶ Thermom. Cu xxx ▶ Thermometer Ni xxxx
Range	OHM 100 Ω ▶ 300 Ω ▶ 1 kΩ ▶ 3 kΩ ▶ 10 kΩ ▶ 30 kΩ Pt Pt 50-3580 ▶ Pt 100-3580 ▶ Pt 500-3580 ▶ Pt 1 000-3580 Cu Cu 50-4280 ▶ Cu 100-4280 Ni Ni 1000-6180 ▶ Ni 10000-6180
Filter selection	Floating floating arithmetic average of the number of measured values Exponential integration filter of the first order with a time constant measurement
Filter constant	Indicates the size of the filter
Sampling frequency	5...320 Hz sampling frequency of A/D transmitter
Min. physic. values*	value that corresponds to the minimum selected range of the input values
Max. physic. values*	value that corresponds to the maximum selected range of the input values
Tare*	to reset the values by non-zero input signals

* In temperature measurements (Pt, Ni, Cu, T/C) the conversion to a physical value (temperature) is carried out by the sensor regardless of the values.

INSTALLATION OF A NEW CARD

When installing a new card, always make sure the device is disconnected from the power supply!

1. Remove the back cover and break off the blinder of a vacant card position. It is recommended to place analogue cards into faster slots in column „A“ (Speed of the bus: Slot „A“ 1 ms, Slot „B“ 2 ms).
2. Remove the card from the shipping container and from the ESD packaging and insert it carefully into the selected slot until you feel a gentle snap
3. Replace the back cover and turn the device on
4. Setting of the card is described in the preceding paragraph

IN.05

TECHNICAL DATA

INPUTS

Number	5	
OHM	Range	0...100 Ω/0...300 Ω 0...1 kΩ/0...1 kΩ/0...3 kΩ/0...10 kΩ/0...30 kΩ
	Connection*	2 or 3 wire
Pt	Type	Pt 100/500/1 000 Ω, s 3 850 ppm -50°...450°C
	Connection*	2 or 3 wire
Ni	Type	Ni 1 000/Ni 10 000 s 6 180 ppm/°C -200°...250°C
	Connection*	2 or 3 wire
Cu	Type	Cu 50/Cu 100 s 4 280 ppm/°C -200°...200°C
	Connection*	2 or 3 wire

* In case of measurements with 2- or 3-wire connection it is necessary to connect the unused inputs (2d • E+/S+, E-/S-, 3d • E-/S-).

TECHNICAL SPECIFICATION

TC	50 ppm/°C
Accuracy	±0,2 % of range (valid for 10 measur./s)
Rate	5...320 measurements/s
Overload capacity	10x (t < 100 ms), 2x
Digital filters	Floating average, Exponential average
Compen. of conduct	max. 40 Ω/100 Ω
Watch-dog	reset after 500 ms
Calibration	at 25°C and 40 % r.h.

POWER SUPPLY

Power supply	5 VDC, 24 VDC
Consumption	max. 150 mA

MECHANIC PROPERTIES

Dimensions	65 x 98 mm
Installation	to OMR 700

OPERATING CONDITIONS

Connection	connector terminal board, cross section < 1,5 mm ²
Working temperature	-20°...60°C
Storage temperature	-20°...85°C
IP rating	IP00
Construction	safety class I
El. safety	EN 61010-1, A2
Dielectric strength	2,5 kVAC over 1 min between bus and inputs
Insulation resistance*	for pollution degree II, measuring cat. III. Input/Bus - 300 V (PI), 150 (DI)
EMC	EN 61326-1 (Industrial use)
Seismic resistance	IEC 980: 1993, čl.6

* PI - Primary insulation, DI - Double insulation

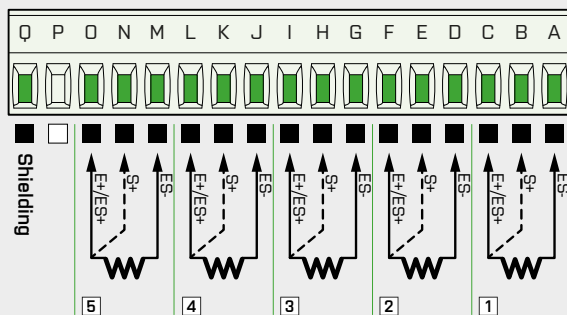
IN.05

CONNECTION

IN.05

ORDER CODE

IN.5



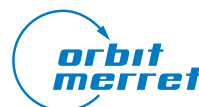
OHM: 0...0,1/0,3/1/3/10/30 kΩ
 RTD: Pt 50/100/500/1 000
 Cu: Cu 50/100
 Ni: Ni 1 000/10 000

IN.05

Specifications Used only for customised versions



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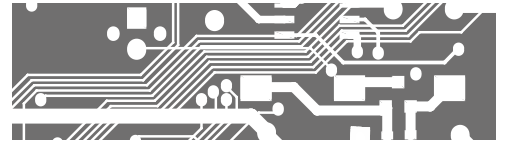
ORBIT MERRET, spol. s r. o.
 Vodňanská 675/30
 198 00 Praha 9
 Czech republic

tel.: +420 281 040 200
 fax.: +420 281 040 299
 orbit@merret.eu
 www.orbit.merret.eu



IN.06

12x DC INPUTS - CURRENT



CURRENT INPUT

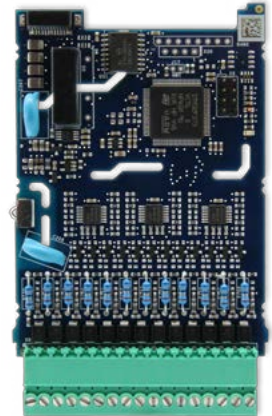
0...5 mA/0...20 mA/4...20 mA/±5 mA/±20 mA

RATE

< 1 000 measurements/s

ACCURACY

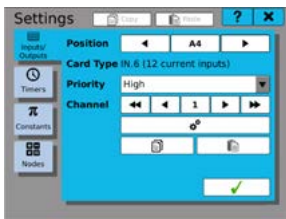
0,2 % of range



CARD SETTINGS



THE FOLLOWING PARAMETERS ARE EDITED IN THE SETTING

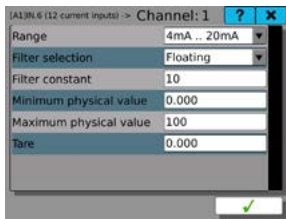


Select the **Position of the card** to be set. Use buttons ◀ ▶ to scroll among the fitted cards.

Type of the card fitted in the specified position

Data transfer **priority** of the selected card. Bigger number of plugged-in cards slows down data flow on the bus. It can be optimized by setting priorities. The real value of the data flow can be then controlled in diagnostics. The maximum achievable data flow in slots A is 1100 frames/s, in slots B 550 frames/s.

Channel to be set. Use buttons ◀ ◀ ▶ ▶ to scroll among the channels. Number of possible selectable channels is determined by the card, which is being set



Button ⚙️ is used to navigate to the settings of the selected channel.

Range	PM 0...5 mA ▶ 0...20 mA ▶ 4...20 mA ▶ ±5 mA ▶ ±20 mA
Filter selection	Floating floating arithmetic average of the number of measured values Exponential integration filter of the first order with a time constant measurement
Filter constant	Indicates the size of the filter
Min. physic. values	value that corresponds to the minimum selected range of the input values
Max. physic. values	value that corresponds to the maximum selected range of input values
Tare	to reset the values by non-zero input signals

INSTALLATION OF A NEW CARD

When installing a new card, always make sure the device is disconnected from the power supply!

1. Remove the back cover and break off the blinder of a vacant card position. It is recommended to place analogue cards into faster slots in column „A“ (Speed of the bus: Slot „A“ 1 ms, Slot „B“ 2 ms).
2. Remove the card from the shipping container and from the ESD packaging and insert it carefully into the selected slot until you feel a gentle snap
3. Replace the back cover and turn the device on
4. Setting of the card is described in the preceding paragraph

IN.06

TECHNICAL DATA

INPUTS

Number	12		
PM	Range	0...5 mA/0...20 mA/4...20 mA ±5 mA/±20 mA	68 R 68 R

TECHNICAL SPECIFICATION

TC	50 ppm/°C
Accuracy	±0,2 % of range (valid for 10 measur./s)
Rate	< 1 000 measurements/s
Overload capacity	10x (t < 100 ms), 2x
Digital filters	Floating average, Exponential average
Watch-dog	reset after 500 ms
Calibration	at 25°C and 40 % r.h.

POWER SUPPLY

Power supply	3,3 VDC, 24 VDC
Consumption	max. 150 mA

MECHANIC PROPERTIES

Dimensions	65 x 98 mm
Installation	to OMR 700

OPERATING CONDITIONS

Connection	connector terminal board, cross section < 1,5 mm ²
Working temperature	-20°...60°C
Storage temperature	-20°...85°C
IP rating	IP00
Construction	safety class I
El. safety	EN 61010-1, A2
Dielectric strength	2,5 kVAC over 1 min between bus and inputs
Insulation resistance*	for pollution degree II, measuring cat. III. Input/Bus - 300 V (PI), 150 (DI)
EMC	EN 61326-1 (Industrial use)
Seismic resistance	IEC 980: 1993, par.6

* PI - Primary insulation, DI - Double insulation

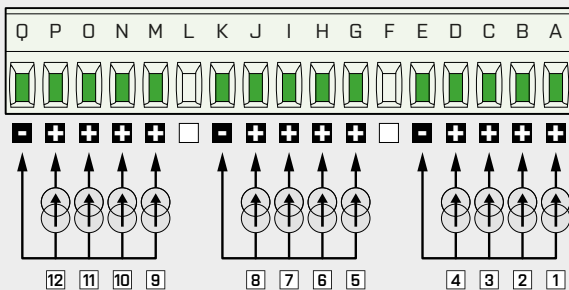
IN.06

CONNECTION

IN.06

ORDER CODE

IN.6



DC - I: 0...5 mA/0...20 mA/4...20 mA/±5/±20 mA/

IN.06

Specifications Used only for customised versions



00



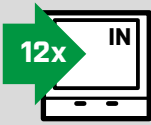
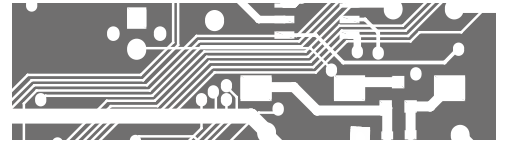
ORBIT MERRET, spol. s r. o.
Vodňanská 675/30
198 00 Praha 9
Czech republic

tel.: +420 281 040 200
fax.: +420 281 040 299
orbit@merret.eu
www.orbit.merret.eu



IN.07

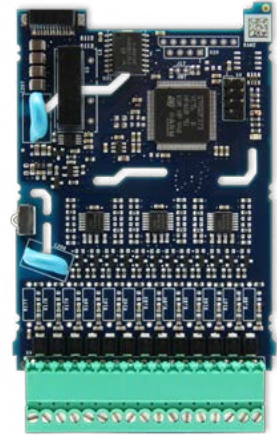
12x VOLTAGE INPUT



VOLTAGE INPUT
 0...2 V/0...5 V/0...10 V/0...40 V
 ±2 V/±5 V/±10 V/±40 V

RATE
 < 1 000 measurements/s

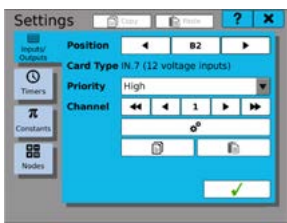
ACCURACY
 0,2 % of range



CARD SETTINGS



THE FOLLOWING PARAMETERS ARE EDITED IN THE SETTING

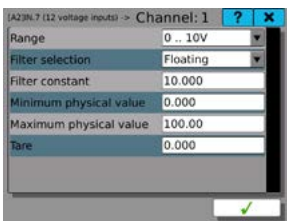


Select the **Position of the card** to be set. Use buttons ◀ ▶ to scroll among the fitted cards.

Type of the card fitted in the specified position

Data transfer **priority** of the selected card. Bigger number of plugged-in cards slows down data flow on the bus. It can be optimized by setting priorities. The real value of the data flow can be then controlled in diagnostics. The maximum achievable data flow in slots A is 1100 frames/s, in slots B 550 frames/s.

Channel to be set. Use buttons ◀◀ ▶▶ to scroll among the channels. Number of possible selectable channels is determined by the card, which is being set



Button ⚙️ is used to navigate to the settings of the selected channel.

Range	PM 0...2 V ▶ 0...5 V ▶ 0...10 V ▶ 0...40 V ±2 V ▶ ±5 V ▶ ±10 V ▶ ±40 V
Filter selection	Floating floating arithmetic average of the number of measured values Exponential integration filter of the first order with a time constant measurement
Filtr constant	Indicates the size of the filter
Min. physic. values	value that corresponds to the minimum selected range of the input values
Max. physic. values	value that corresponds to the maximum selected range of input values
Tare	to reset the values by non-zero input signals

INSTALLATION OF A NEW CARD

When installing a new card, always make sure the device is disconnected from the power supply!

1. Remove the back cover and break off the blinder of a vacant card position. It is recommended to place analogue cards into faster slots in column „A“ (Speed of the bus: Slot „A“ 1 ms, Slot „B“ 2 ms).
2. Remove the card from the shipping container and from the ESD packaging and insert it carefully into the selected slot until you feel a gentle snap
3. Replace the back cover and turn the device on
4. Setting of the card is described in the preceding paragraph

IN.07

TECHNICAL DATA

INPUTS

Number	12		
PM	Range	0...2 V/0...5 V/0...10 V/0...40 V	> 200 kΩ
		±2 V/±5 V/±10 V/±40 V	> 200 kΩ

TECHNICAL SPECIFICATION

TC	50 ppm/°C
Accuracy	±0,2 % of range (valid for 10 measur./s)
Rate	< 1 000 measurements/s
Overload capacity	10x (t < 100 ms), 2x
Digital filters	Floating average, Exponential average
Watch-dog	reset after 500 ms
Calibration	at 25°C and 40 % r.h.

POWER SUPPLY

Power supply	3,3 VDC, 24 VDC
Consumption	max. 150 mA

MECHANIC PROPERTIES

Dimensions	65 x 98 mm
Installation	to OMR 700

OPERATING CONDITIONS

Connection	connector terminal board, cross section < 1,5 mm ²
Working temperature	-20°...60°C
Storage temperature	-20°...95°C
IP rating	IP00
Construction	safety class I
El. safety	EN 61010-1, A2
Dielectric strength	2,5 kVAC over 1 min between bus and inputs
Insulation resistance*	for pollution degree II, measuring cat. III. Input/Bus - 300 V (PI), 150 (DI)
EMC	EN 61326-1 (Industrial use)
Seismic resistance	IEC 980: 1993, čl.6

* PI - Primary insulation, DI - Double insulation

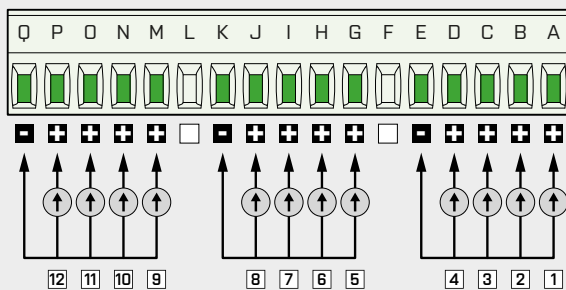
IN.07

CONNECTION

IN.07

ORDER CODE

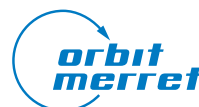
IN.7



DC - U: 0...2 V/0...5 V/0...10 V/0...40 V/±2/±5/±10/40 V

IN.07

Specifications Used only for customised versions



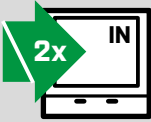
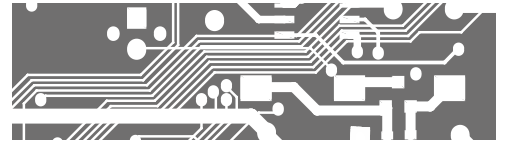
ORBIT MERRET, spol. s r. o.
Vodňanská 675/30
198 00 Praha 9
Czech republic

tel.: +420 281 040 200
fax.: +420 281 040 299
orbit@merret.eu
www.orbit.merret.eu



IN.08

2x INPUT FOR STRAIN GAUGES, ISOLATED



INPUT FOR STRAIN GAUGES
LC 1..4/2..8/4..16 mV/V

RATE
< 100 measurements/s

ACCURACY
0,05 % of range

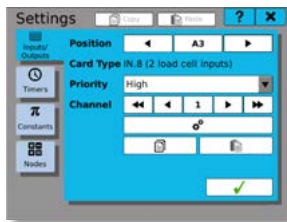
LOAD CELL BRIDGE EXCITATION
10 VDC, load ≥ 80 Ω



CARD SETTINGS



THE FOLLOWING PARAMETERS ARE EDITED IN THE SETTING

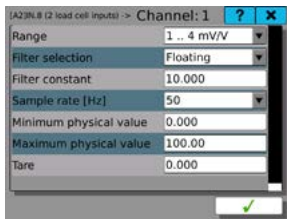


Select the **Position of the card** to be set. Use buttons ◀ ▶ to scroll among the fitted cards.

Type of the card fitted in the specified position

Data transfer **priority** of the selected card. Bigger number of plugged-in cards slows down data flow on the bus. It can be optimized by setting priorities. The real value of the data flow can be then controlled in diagnostics. The maximum achievable data flow in slots A is 1100 frames/s, in slots B 550 frames/s.

Channel to be set. Use buttons ◀◀ ▶▶ to scroll among the channels. Number of possible selectable channels is determined by the card, which is being set



Button ⚙️ is used to navigate to the settings of the selected channel.

Range	LC 1..4 mV/V ▶ 2..8 mV/V ▶ 4..16 mV/V
Filter selection	Floating floating arithmetic average of the number of measured values Exponential integration filter of the first order with a time constant measurement
Filter constant	Indicates the size of the filter
Sampling frequency	5..320 Hz sampling frequency of A/D transmitter
Min. physic. values	value that corresponds to the minimum selected range of the input values
Max. physic. values	value that corresponds to the maximum selected range of input values
Tare	to reset the values by non-zero input signals

INSTALLATION OF A NEW CARD

When installing a new card, always make sure the device is disconnected from the power supply!

1. Remove the back cover and break off the blinder of a vacant card position. It is recommended to place analogue cards into faster slots in column „A“ (Speed of the bus: Slot „A“ 1 ms, Slot „B“ 2 ms).
2. Remove the card from the shipping container and from the ESD packaging and insert it carefully into the selected slot until you feel a gentle snap
3. Replace the back cover and turn the device on
4. Setting of the card is described in the preceding paragraph

IN.08

TECHNICAL DATA

INPUTS

Number	2, isolated	
LC	Range	1...4 mV/V
		2...8 mV/V
		4...16 mV/V
Connection	6 wire	
Power supply müstCu	10 VDC, load $\geq 80 \Omega$	

TECHNICAL SPECIFICATION

TC	50 ppm/°C
Accuracy	$\pm 0,05$ % of range (valid for 10 measur./s)
Rate	5...100 measurements/s
Overload capacity	10x (t < 100 ms), 2x
Digital filters	Floating average, Exponential average
Watch-dog	reset after 500 ms
Calibration	at 25°C and 40 % r.h.

POWER SUPPLY

Power supply	5 VDC, 24 VDC
Consumption	max. 150 mA

MECHANIC PROPERTIES

Dimensions	65 x 98 mm
Installation	to QMR 700

OPERATING CONDITIONS

Connection	connector terminal board, cross section < 1,5 mm ²
Working temperature	-20°...60°C
Storage temperature	-20°...85°C
IP rating	IP00
Construction	safety class I
El. safety	EN 61010-1, A2
Dielectric strength	2,5 kVAC over 1 min between bus and inputs 1 kVAC over 1 min between inputs
Insulation resistance*	for pollution degree II, measuring cat. III. Input / Bus - 300 V (PI), 150 (DI) Input / Input - 150 V (PI), 100 (DI)
EMC	EN 61326-1 (Industrial use)
Seismic resistance	IEC 980: 1993, čl.6

* PI - Primary insulation, DI - Double insulation

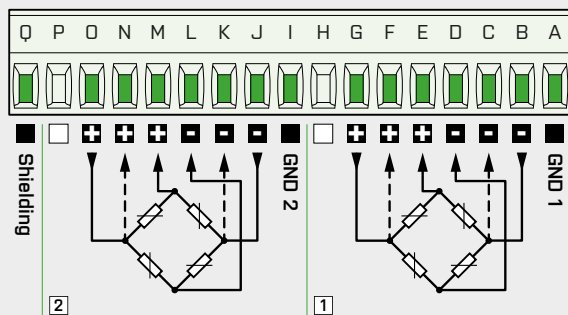
IN.08

CONNECTION

IN.08

ORDER CODE

IN.08



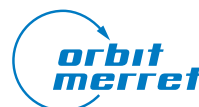
DMS: 1...16 mV/V

IN.08

Specifications Used only for customised versions



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ORBIT MERRET, spol. s r. o.
Vodňanská 675/30
198 00 Praha 9
Czech republic

tel.: +420 281 040 200

fax.: +420 281 040 299

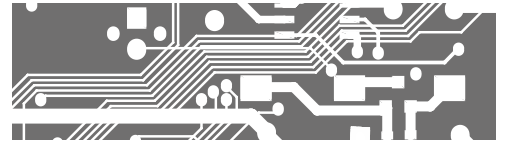
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www.orbit.merret.eu



IN.09

3x PRECISE CURRENT/VOLTAGE INPUT, ISOLATED



CURRENT/VOLTAGE INPUT

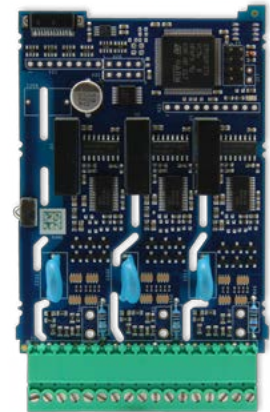
PM 0...20 mA/4...20 mA/±20 mA
0...5 V/0...10 V/±5 V/±10 V

RATE

< 1 000 measurements/s

ACCURACY

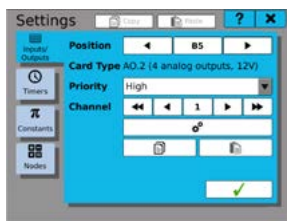
0,02 % of range



CARD SETTINGS



THE FOLLOWING PARAMETERS ARE EDITED IN THE SETTING

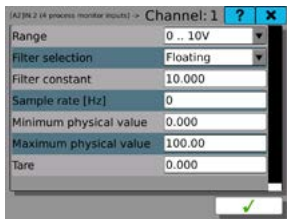


Select the **Position of the card** to be set. Use buttons ◀ ▶ to scroll among the fitted cards.

Type of the card fitted in the specified position

Data transfer **priority** of the selected card. Bigger number of plugged-in cards slows down data flow on the bus. It can be optimized by setting priorities. The real value of the data flow can be then controlled in diagnostics. The maximum achievable data flow in slots A is 1100 frames/s, in slots B 550 frames/s.

Channel to be set. Use buttons ◀◀ ▶▶ to scroll among the channels. Number of possible selectable channels is determined by the card, which is being set



Button ⚙️ is used to navigate to the settings of the selected channel.

Range	PM 0...20 mA ▶ 4...20 mA ▶ ±20 mA 0...5 V ▶ 0...10 V ▶ ±5 V ▶ ±10 V
Filter selection	Floating floating arithmetic average of the number of measured values Exponential integration filter of the first order with a time constant measurement
Filter constant	Indicates the size of the filter
Sampling frequency	5...320 Hz sampling frequency of A/D transmitter
Min. physic. values	value that corresponds to the minimum selected range of the input values
Max. physic. values	value that corresponds to the maximum selected range of input values
Tare	to reset the values by non-zero input signals

INSTALLATION OF A NEW CARD

When installing a new card, always make sure the device is disconnected from the power supply!

1. Remove the back cover and break off the blinder of a vacant card position. It is recommended to place analogue cards into faster slots in column „A“ (Speed of the bus: Slot „A“ 1 ms, Slot „B“ 2 ms).
2. Remove the card from the shipping container and from the ESD packaging and insert it carefully into the selected slot until you feel a gentle snap
3. Replace the back cover and turn the device on
4. Setting of the card is described in the preceding paragraph

Preliminary

IN.09

TECHNICAL DATA

INPUTS

Number	3, isolated			
PM	Range	0...20 mA/4...20 mA	15 Ω	1
		±20 mA/	15 Ω	1
		0...5 V/0...10 V	> 10 MΩ	2
		±5 V/±10 V	> 10 MΩ	2

TECHNICAL SPECIFICATION

TC	50 ppm/°C
Accuracy	±0,02 % of range (valid for 10 measur./s)
Rate	5...1280 measurements/s
Overload capacity	10x (t < 100 ms), 2x
Digital filters	Floating average, Exponential average
Watch-dog	reset after 500 ms
Calibration	at 25°C and 40 % r.h.

POWER SUPPLY

Power supply	5 VDC, 24 VDC
Consumption	max. 150 mA

MECHANIC PROPERTIES

Dimensions	65 x 98 mm
Installation	to QMR 700

OPERATING CONDITIONS

Connection	connector terminal board, cross section < 1,5 mm ²
Working temperature	-20°...60°C
Storage temperature	-20°...85°C
IP rating	IP00
Construction	safety class I
El. safety	EN 61010-1, A2
Dielectric strength	2,5 kVAC over 1 min between bus and inputs 1 kVAC over 1 min between inputs
Insulation resistance*	for pollution degree II, measuring cat. III. Input / Bus - 300 V (PI), 150 (DI) Input / Input - 150 V (PI), 100 (DI)
EMC	EN 61326-1 (Industrial use)
Seismic resistance	IEC 980: 1993, čl.6

* PI - Primary insulation, DI - Double insulation

IN.09

CONNECTION

IN.09

ORDER CODE

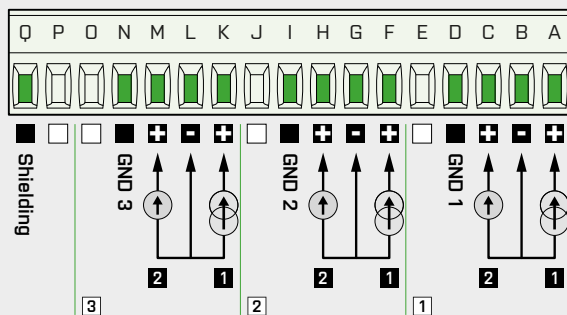
IN.09

Specifications Used only for customised versions



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IN.9



- 1 DC - I: 0...20 mA/4...20 mA/±20 mA
- 2 DC - U: 0...5 V/0...10 V/±5 V/±10 V



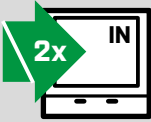
ORBIT MERRET, spol. s r. o.
Vodňanská 675/30
198 00 Praha 9
Czech republic

tel.: +420 281 040 200
fax.: +420 281 040 299
orbit@merret.eu
www.orbit.merret.eu



IN.10

2x AC CURRENT/VOLTAGE INPUT, ISOLATED



AC CURRENT/VOLTAGE INPUT

AC 0...10 V/0...120 V/0...250 V/0...450 V
0...60 mV/0...150 mV/0...300 mV/0...1 A/0...2,5 A/0...5 A

RATE

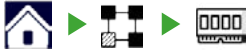
10 measurements/s

ACCURACY

0,3 % of range



CARD SETTINGS



THE FOLLOWING PARAMETERS ARE EDITED IN THE SETTING

Select the **Position of the card** to be set. Use buttons ◀ ▶ to scroll among the fitted cards.

Type of the card fitted in the specified position

Data transfer **priority** of the selected card. Bigger number of plugged-in cards slows down data flow on the bus. It can be optimized by setting priorities. The real value of the data flow can be then controlled in diagnostics. The maximum achievable data flow in slots A is 1100 frames/s, in slots B 550 frames/s.

Channel to be set. Use buttons ◀◀ ▶▶ to scroll among the channels. Number of possible selectable channels is determined by the card, which is being set

Button ⚙️ is used to navigate to the settings of the selected channel.

INSTALLATION OF A NEW CARD

When installing a new card, always make sure the device is disconnected from the power supply!

1. Remove the back cover and break off the blinder of a vacant card position. It is recommended to place analogue cards into faster slots in column „A“ (Speed of the bus: Slot „A“ 1 ms, Slot „B“ 2 ms).
2. Remove the card from the shipping container and from the ESD packaging and insert it carefully into the selected slot until you feel a gentle snap
3. Replace the back cover and turn the device on
4. Setting of the card is described in the preceding paragraph

Preliminary

IN.10

TECHNICAL DATA

INPUTS

Number	2, isolated			
AC	Range	±20 mV	> 10 MΩ	3 2 3
		±150 mV	> 10 MΩ	
		±1 200 mV	1,25 MΩ	

TECHNICAL SPECIFICATION

TC	50 ppm/°C
Accuracy	±0,3 % of range
Rate	< 10 measurements/s
Overload capacity	10x (t < 100 ms) ne pro 5 A a 250 V, 2x (long term)
Digital filters	Floating average, Exponential average
Watch-dog	reset after 500 ms
Calibration	at 25°C and 40 % r.h.

POWER SUPPLY

Power supply	3,3 VDC, 24 VDC
Consumption	max. 150 mA

MECHANIC PROPERTIES

Dimensions	65 x 98 mm
Installation	to OMR 700

OPERATING CONDITIONS

Connection	connector terminal board, cross section < 1,5 mm ²
Working temperature	-20°...60°C
Storage temperature	-20°...85°C
IP rating	IP00
Construction	safety class I
El. safety	EN 61010-1, A2
Dielectric strength	2,5 kVAC over 1 min between bus and inputs 1 kVAC over 1 min between inputs
Insulation resistance*	for pollution degree II, measuring cat. III. Input / Bus - 300 V (PI), 150 (DI) Input / Input - 150 V (PI), 100 (DI)
EMC	EN 61326-1 (Industrial use)
Seismic resistance	IEC 980: 1993, čl.6

* PI - Primary insulation, DI - Double insulation

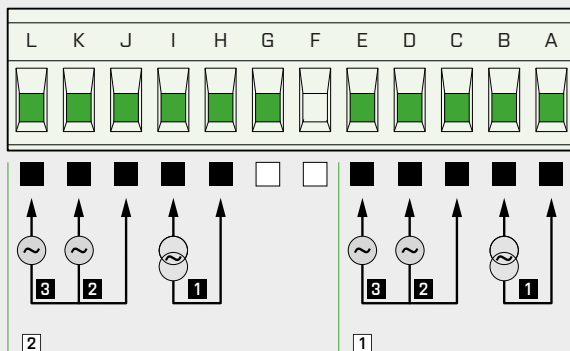
IN.10

CONNECTION

IN.10

ORDER CODE

IN.10



1 AC - I: 0...60/150/300 mV
0...1/2,5/5 A

2 AC - U1: 0...10/250 V

3 AC - U2: 0...120/450 V

IN.10

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ORBIT MERRET, spol. s r. o.
Vodňanská 675/30
198 00 Praha 9
Czech republic

tel.: +420 281 040 200

fax.: +420 281 040 299

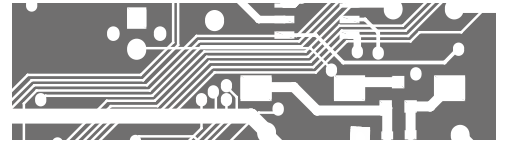
orbit@merret.eu

www.orbit.merret.eu



IN.11

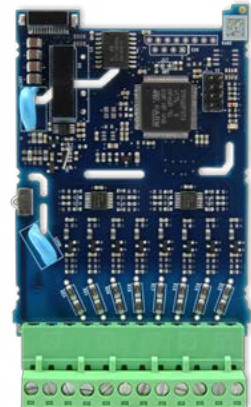
8x ANALOGUE/DIGITAL INPUT



ANALOGUE/DIGITAL INPUT
AC/DC 12...250 V

RATE
< 1 ms

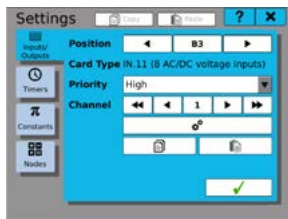
ACCURACY
0,3 % of range



CARD SETTINGS



THE FOLLOWING PARAMETERS ARE EDITED IN THE SETTING

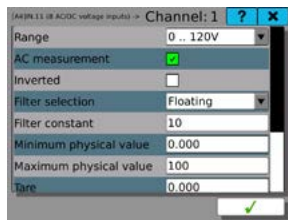


Select the **Position of the card** to be set. Use buttons ◀ ▶ to scroll among the fitted cards.

Type of the card fitted in the specified position

Data transfer **priority** of the selected card. Bigger number of plugged-in cards slows down data flow on the bus. It can be optimized by setting priorities. The real value of the data flow can be then controlled in diagnostics. The maximum achievable data flow in slots A is 1100 frames/s, in slots B 550 frames/s.

Channel to be set. Use buttons ◀ ◀ ▶ ▶ to scroll among the channels. Number of possible selectable channels is determined by the card, which is being set



Button ⚙️ is used to navigate to the settings of the selected channel.

Range	DC 0...30 V ▶ 0...120 V ▶ 0...250 V ▶ ±30 V ▶ ±120 V ▶ ±250 V ▶
	AC 30 V ▶ 120 V ▶ 250 V
Alternating voltage	<input checked="" type="checkbox"/> input measures and compares AC voltage <input type="checkbox"/> input measures and compares DC voltage
Inverted	<input checked="" type="checkbox"/> input inversion <input type="checkbox"/> without change
Filter selection	Floating floating arithmetic average of the number of measured values Exponential integration filter of the first order with a time constant measurement
Filter constant	Indicates the size of the filter
Min. physic. values	value that corresponds to the minimum selected range of the input values
Max. physic. values	value that corresponds to the maximum selected range of input values
Tare	to reset the values by non-zero input signals

INSTALLATION OF A NEW CARD

When installing a new card, always make sure the device is disconnected from the power supply!

1. Remove the back cover and break off the blinder of a vacant card position. It is recommended to place analogue cards into faster slots in column „A“ (Speed of the bus: Slot „A“ 1 ms, Slot „B“ 2 ms).
2. Remove the card from the shipping container and from the ESD packaging and insert it carefully into the selected slot until you feel a gentle snap
3. Replace the back cover and turn the device on
4. Setting of the card is described in the preceding paragraph

IN.11

TECHNICAL DATA

INPUTS

Number	8		
DC	Range	0...30 V/0...120 V/0...250 V	> 1 MΩ
		±30 V/±120 V/±250 V	> 1 MΩ
AC		0...30 V/0...120 V/0...250 V	> 1 MΩ

TECHNICAL SPECIFICATION

TC	50 ppm/°C
Accuracy	1% of range [DC] (valid for 10 measur./s) 5% of range [AC]
Rate	< 1 000 measurements/s [DC] < 5 Ga/s [AC]
Overload capacity	10x (t < 100 ms), 2x
Digital filters	Floating average, Exponential average
Watch-dog	reset after 500 ms
Calibration	at 25°C and 40 % r.h.

POWER SUPPLY

Power supply	3,3 VDC, 24 VDC
Consumption	max. 150 mA

MECHANIC PROPERTIES

Dimensions	65 x 98 mm
Installation	to QMR 700

OPERATING CONDITIONS

Connection	connector terminal board, cross section < 2,5 mm ²
Working temperature	-20°...60°C
Storage temperature	-20°...85°C
IP rating	IP00
Construction	safety class I
El. safety	EN 61010-1, A2
Dielectric strength	2,5 kVAC over 1 min between bus and inputs
Insulation resistance*	for pollution degree II, measuring cat. III. Input/Bus - 300 V [PI], 150 [DI]
EMC	EN 61326-1 (Industrial use)
Seismic resistance	IEC 980: 1993, čl.6

* PI - Primary insulation, DI - Double insulation

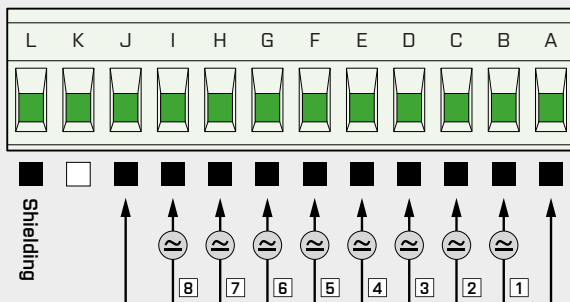
IN.11

CONNECTION

IN.11

ORDER CODE

IN.11



AC/DC: 12...250 V AC/DC

IN.11

Specifications

Used only for customised versions



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ORBIT MERRET, spol. s r. o.
Vodňanská 675/30
198 00 Praha 9
Czech republic

tel.: +420 281 040 200

fax.: +420 281 040 299

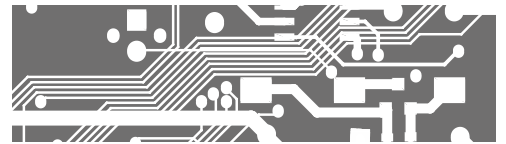
orbit@merret.eu

www.orbit.merret.eu

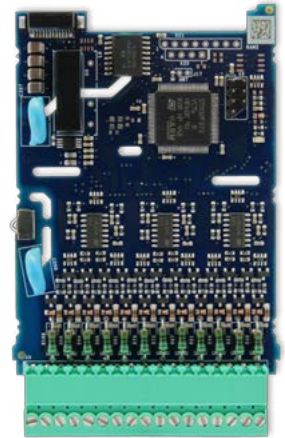


IN.12

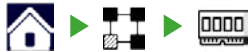
12x INPUT FOR COUNTER/FREQUENCY



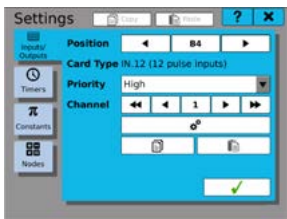
INPUT FOR COUNTER/FREQUENCY
UC Contact, PNP, NPN
 < 10 kHz



CARD SETTINGS



THE FOLLOWING PARAMETERS ARE EDITED IN THE SETTING



Select the **Position of the card** to be set. Use buttons ◀ ▶ to scroll among the fitted cards.

Type of the card fitted in the specified position

Data transfer **priority** of the selected card. Bigger number of plugged-in cards slows down data flow on the bus. It can be optimized by setting priorities. The real value of the data flow can be then controlled in diagnostics. The maximum achievable data flow in slots A is 1100 frames/s, in slots B 550 frames/s.

Channel to be set. Use buttons ◀ ◀ ▶ ▶ to scroll among the channels. Number of possible selectable channels is determined by the card, which is being set



Button ⚙️ is used to navigate to the settings of the selected channel.

Input type	UC	Contact ▶ 5 V ▶ 10 V ▶ 12 V ▶ 24 V ▶ 30 V
Inverted	<input checked="" type="checkbox"/>	input inversion <input type="checkbox"/> without change
Edge		rising ▶ falling ▶ both edge selection (for counter reaction)
Filter time		100 μs ▶ 200 μs ▶ 500 μs ▶ 1 ms ▶ 2 ms ▶ 5 ms ▶ 10 ms ▶ 20 ms ▶ 50 ms ▶ 100 ms ▶ 200 ms ▶ 500 ms ▶ 1 s ▶ 2 s ▶ 5 s ▶ 10 s ▶ 20 s ▶ 50 s ▶ 1 min ▶ 2 min ▶ 5 min ▶ 10 min Setting determines how long the input pulse must be to prevent its filtration.
Measur. time		frequency measurement counts number of pulses within this time
Count down	<input checked="" type="checkbox"/>	counter counts downwards <input type="checkbox"/> counter counts upwards
Preset value		signal Preset sets contents of the counter to this value
Counter scale		constant, which re-multiplies the value of the counter (for conversion to a physical value)
Frequency scale		constant, which re-multiplies the value of the frequency (for conversion to a physical value)
Tare		to reset the values by non-zero input signals

INSTALLATION OF A NEW CARD

When installing a new card, always make sure the device is disconnected from the power supply!

1. Remove the back cover and break off the blinder of a vacant card position. It is recommended to place analogue cards into faster slots in column „A“ (Speed of the bus: Slot „A“ 1 ms, Slot „B“ 2 ms).
2. Remove the card from the shipping container and from the ESD packaging and insert it carefully into the selected slot until you feel a gentle snap.
3. Replace the back cover and turn the device on.
4. Setting of the card is described in the preceding paragraph.

IN.12

TECHNICAL DATA

INPUTS

Number	12	
UC	Input	on contact, PNP, NPN 5 V, 10 V, 12 V, 24 V, 30 V
	Input frequency	0,1 Hz...10 kHz

TECHNICAL SPECIFICATION

TC	50 ppm/°C
Accuracy	±0,05 % of range (Frequency)
Overload capacity	10x (t < 100 ms), 2x
Watch-dog	reset after 500 ms
Calibration	at 25°C and 40 % r.h.

POWER SUPPLY

Power supply	3,3 VDC, 24 VDC
Consumption	max. 150 mA

MECHANIC PROPERTIES

Dimensions	65 x 98 mm
Installation	to OMR 700

OPERATING CONDITIONS

Connection	connector terminal board, cross section < 1,5 mm ²
Working temperature	-20°...60°C
Storage temperature	-20°...85°C
IP rating	IP00
Construction	safety class I
El. safety	EN 61010-1, A2
Dielectric strength	2,5 kVAC over 1 min between bus and inputs
Insulation resistance*	for pollution degree II, measuring cat. III. Input/Bus - 300 V (PI), 150 (DI)
EMC	EN 61326-1 (Industrial use)
Seismic resistance	IEC 980: 1993, čl.6

* PI - Primary insulation, DI - Double insulation

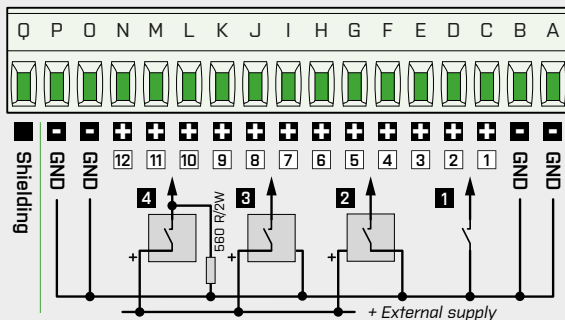
IN.12

CONNECTION

IN.12

ORDER CODE

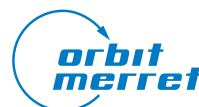
IN.12



- 1 contact
- 2 2-wire sensors, PNP NO
- 3 3-wire sensors, PNP NO
- 4 3-wire sensors, NPN NO

IN.12

Specifications Used only for customised versions



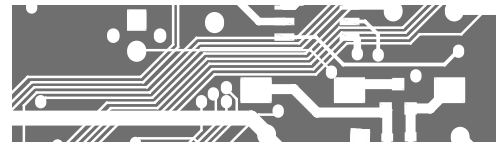
ORBIT MERRET, spol. s r. o.
Vodňanská 675/30
198 00 Praha 9
Czech republic

tel.: +420 281 040 200
fax.: +420 281 040 299
orbit@merret.eu
www.orbit.merret.eu



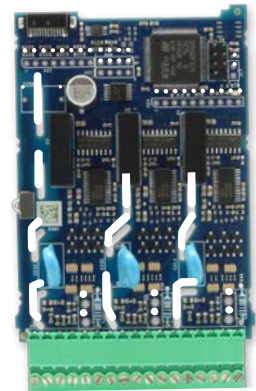
IN.13

2x INPUT FOR IRC, UP/DW



INPUT COUNTER /FREQUENCY - IRC, UP/DW
UQC Contact, PNP, NPN
 < 1 MHz

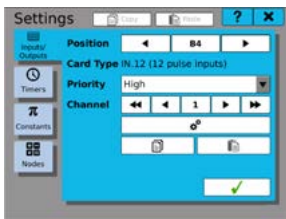
SENSOR EXCITATION
 5/24 VDC, < 200 mA



CARD SETTINGS



THE FOLLOWING PARAMETERS ARE EDITED IN THE SETTING



Select the **Position of the card** to be set. Use buttons ◀ ▶ to scroll among the fitted cards.

Type of the card fitted in the specified position

Data transfer **priority** of the selected card. Bigger number of plugged-in cards slows down data flow on the bus. It can be optimized by setting priorities. The real value of the data flow can be then controlled in diagnostics. The maximum achievable data flow in slots A is 1100 frames/s, in slots B 550 frames/s.

Channel to be set. Use buttons ◀ ◁ ▷ ▶ to scroll among the channels. Number of possible selectable channels is determined by the card, which is being set



Button ⚙️ is used to navigate to the settings of the selected channel.

Input type	UQC Contact ▶ 5 V ▶ 10 V ▶ 12 V ▶ 24 V ▶ 30 V
Inverted	<input checked="" type="checkbox"/> input inversion <input type="checkbox"/> without change
Edge	rising ▶ falling ▶ both edge selection (for counter reaction)
Filter time	100 μs ▶ 200 μs ▶ 500 μs ▶ 1 ms ▶ 2 ms ▶ 5 ms ▶ 10 ms ▶ 20 ms ▶ 50 ms ▶ 100 ms ▶ 200 ms ▶ 500 ms ▶ 1 s ▶ 2 s ▶ 5 s ▶ 10 s ▶ 20 s ▶ 50 s ▶ 1 min ▶ 2 min ▶ 5 min ▶ 10 min Setting determines how long the input pulse must be to prevent its filtration.
Measur. time	frequency measurement counts number of pulses within this time
Count down	<input checked="" type="checkbox"/> counter counts downwards <input type="checkbox"/> counter counts upwards
Preset value	signal Preset sets contents of the counter to this value
Counter scale	constant, which re-multiplies the value of the counter (for conversion to a physical value)
Frequency scale	constant, which re-multiplies the value of the frequency (for conversion to a physical value)
Tare	to reset the values by non-zero input signals

INSTALLATION OF A NEW CARD

When installing a new card, always make sure the device is disconnected from the power supply!

1. Remove the back cover and break off the blinder of a vacant card position. It is recommended to place analogue cards into faster slots in column „A“ (Speed of the bus: Slot „A“ 1 ms, Slot „B“ 2 ms).
2. Remove the card from the shipping container and from the ESD packaging and insert it carefully into the selected slot until you feel a gentle snap
3. Replace the back cover and turn the device on
4. Setting of the card is described in the preceding paragraph

Preliminary

IN.13

TECHNICAL DATA

INPUTS

Number	2	
UQC	Input	on contact, PNP, NPN 5 V, 10 V, 12 V, 24 V, 30 V
	Input frequency	0,1 Hz...1 MHz

TECHNICAL SPECIFICATION

TC	50 ppm/°C
Accuracy	±0,05 % of range (Frequency)
Overload capacity	10x (t < 100 ms), 2x
Watch-dog	reset after 500 ms
Calibration	at 25°C and 40 % r.h.

POWER SUPPLY

Power supply	3,3 VDC, 24 VDC
Consumption	max. 150 mA

MECHANIC PROPERTIES

Dimensions	65 x 98 mm
Installation	to OMR 700

OPERATING CONDITIONS

Connection	connector terminal board, cross section < 1,5 mm ²
Working temperature	-20°...60°C
Storage temperature	-20°...85°C
IP rating	IP00
Construction	safety class I
El. safety	EN 61010-1, A2
Dielectric strength	2,5 kVAC over 1 min between bus and inputs
Insulation resistance*	for pollution degree II, measuring cat. III. Input/Bus - 300 V (PI), 150 (DI)
EMC	EN 61326-1 (Industrial use)
Seismic resistance	IEC 980: 1993, čl.6

* PI - Primary insulation, DI - Double insulation

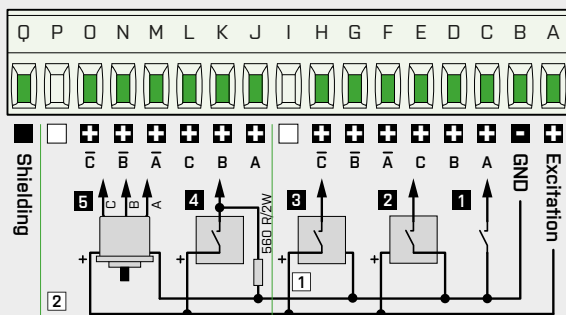
IN.13

CONNECTION

IN.13

ORDER CODE

IN.13



- 1** contact
- 2** 2-wire sensors, PNP NO
- 3** 3-wire sensors, PNP NO
- 4** 3-wire sensors, NPN NO
- 5** IRC sensors, NPN NO

IN.13

Specifications Used only for customised versions



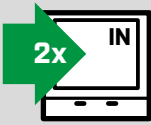
ORBIT MERRET, spol. s r. o.
Vodňanská 675/30
198 00 Praha 9
Czech republic

tel.: +420 281 040 200
fax.: +420 281 040 299
orbit@merret.eu
www.orbit.merret.eu



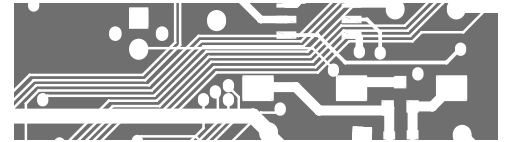
IN.14

2x INPUT FOR LVDT SENSORS



INPUT FOR LVDT SENSORS

LVDT 1/3/5 VAC WITH FREQUENCY 2,5/5/10 kHz



CARD SETTINGS



THE FOLLOWING PARAMETERS ARE EDITED IN THE SETTING

Select the **Position of the card** to be set. Use buttons ◀▶ to scroll among the fitted cards.

Type of the card fitted in the specified position

Data transfer **priority** of the selected card. Bigger number of plugged-in cards slows down data flow on the bus. It can be optimized by setting priorities. The real value of the data flow can be then controlled in diagnostics. The maximum achievable data flow in slots A is 1100 frames/s, in slots B 550 frames/s.

Channel to be set. Use buttons ◀◀ ▶▶ to scroll among the channels. Number of possible selectable channels is determined by the card, which is being set

Button ⚙️ is used to navigate to the settings of the selected channel.

INSTALLATION OF A NEW CARD

When installing a new card, always make sure the device is disconnected from the power supply!

1. Remove the back cover and break off the blinder of a vacant card position. It is recommended to place analogue cards into faster slots in column „A“ (Speed of the bus: Slot „A“ 1 ms, Slot „B“ 2 ms).
2. Remove the card from the shipping container and from the ESD packaging and insert it carefully into the selected slot until you feel a gentle snap
3. Replace the back cover and turn the device on
4. Setting of the card is described in the preceding paragraph

Preliminary

IN.14

TECHNICAL DATA

INPUTS

Number	2, isolated	
LVDT	Range	1/3/5 VAC with frequency 2,5/5/10 kHz
	Connection	2-, 5- or 6-wire

TECHNICAL SPECIFICATION

TC	50 ppm/°C
Accuracy	±0,2 % of range (valid for 10 measur./s)
Rate	< 1 000 measurements/s
Overload capacity	10x (t < 100 ms), 2x
Digital filters	Floating average, Exponential average
Watch-dog	reset after 500 ms
Calibration	at 25°C and 40 % r.h.

POWER SUPPLY

Power supply	3,3 VDC, 24 VDC
Consumption	max. 150 mA

MECHANIC PROPERTIES

Dimensions	65 x 98 mm
Installation	to OMR 700

OPERATING CONDITIONS

Connection	connector terminal board, cross section < 1,5 mm ²
Working temperature	-20°...60°C
Storage temperature	-20°...85°C
IP rating	IP00
Construction	safety class I
El. safety	EN 61010-1, A2
Dielectric strength	2,5 kVAC over 1 min between bus and inputs 1 kVAC over 1 min between inputs
Insulation resistance*	for pollution degree II, measuring cat. III. Input / Bus - 300 V (PI), 150 (DI) Input / Input - 150 V (PI), 100 (DI)
EMC	EN 61326-1 (Industrial use)
Seismic resistance	IEC 980: 1993, čl.6

* PI - Primary insulation, DI - Double insulation

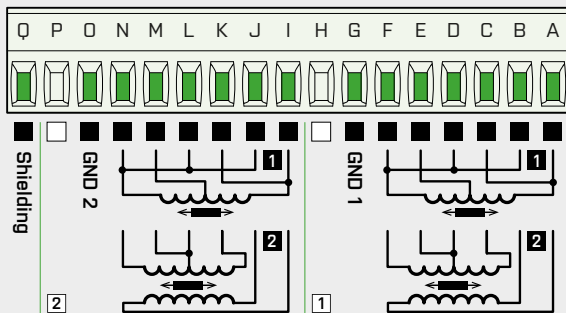
IN.14

CONNECTION

IN.14

ORDER CODE

IN.14



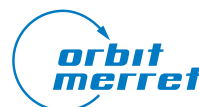
- 1 3-wire LVDT sensors
- 2 5-wire LVDT sensors

IN.14

Specifications Used only for customised versions



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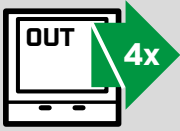
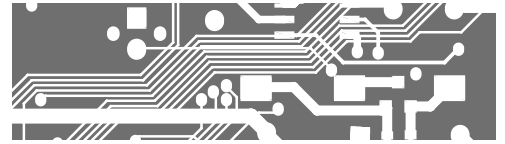
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Vodňanská 675/30
198 00 Praha 9
Czech republic

tel.: +420 281 040 200
fax.: +420 281 040 299
orbit@merret.eu
www.orbit.merret.eu



OUT.01

4x RELAYS WITH SWITCH-OVER CONTACT



DIGITAL OUTPUTS
4x Relays with switch-over contact

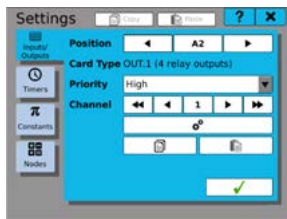
RATE
< 10 ms



CARD SETTINGS



THE FOLLOWING PARAMETERS ARE EDITED IN THE SETTING



Select the **Position of the card** to be set. Use buttons ◀ ▶ to scroll among the fitted cards.

Type of the card fitted in the specified position

Data transfer **priority** of the selected card. Bigger number of plugged-in cards slows down data flow on the bus. It can be optimized by setting priorities. The real value of the data flow can be then controlled in diagnostics. The maximum achievable data flow in slots A is 1100 frames/s, in slots B 550 frames/s.

Channel to be set. Use buttons ◀◀ ▶▶ to scroll among the channels. Number of possible selectable channels is determined by the card, which is being set



Button ⚙️ is used to navigate to the settings of the selected channel.

Limit MIN	setting the lower limit for switching
Limit MAX	setting the upper limit for switching
Hysteresis	shows the hysteresis range around the limit (on both sides, Limit. ±1/2 Hysteresis)
Activation delay	0,0...99,9 s setting the activation output delay
Deactivation delay	0,0...99,9 s setting the deactivation output delay
Permit MIN	<input checked="" type="checkbox"/> output is evaluated by the setting Limit MIN and MAX
Permit MAX	<input type="checkbox"/> output is set in binary form directly from the node
Inverted	<input checked="" type="checkbox"/> relay is in the active state OFF <input type="checkbox"/> relay is in the active state ON

INSTALLATION OF A NEW CARD

When installing a new card, always make sure the device is disconnected from the power supply!

1. Remove the back cover and break off the blinder of a vacant card position. It is recommended to place analogue cards into faster slots in column „A“ (Speed of the bus: Slot „A“ 1 ms, Slot „B“ 2 ms).
2. Remove the card from the shipping container and from the ESD packaging and insert it carefully into the selected slot until you feel a gentle snap
3. Replace the back cover and turn the device on
4. Setting of the card is described in the preceding paragraph

OUT.01

TECHNICAL DATA

OUTPUTS

Number	4, isolated
Type	Relays with switch-over contact (Form C) ON/OFF
Maximum switching U and I	250 VAC/30 VDC/3 A
Maximum switching power	2 500 VA/240 W
Relays	1/8 HP 277 VAC, 1/10 HP 125 V, Pilot Duty D300
Rate	< 10 ms

TECHNICAL SPECIFICATION

Watch-dog	reset after 500 ms
Calibration	at 25°C and 40 % r.h.

POWER SUPPLY

Power supply	5 VDC, 24 VDC
Consumption	max. 150 mA

MECHANIC PROPERTIES

Dimensions	65 x 98 mm
Installation	to OMR 700

OPERATING CONDITIONS

Connection	connector terminal board, cross section < 2,5 mm ²
Working temperature	-20°...60°C
Storage temperature	-20°...95°C
IP rating	IP00
Construction	safety class I
El. safety	EN 61010-1, A2
Dielectric strength	2,5 kVAC over 1 min between bus and inputs 2,5 kVAC over 1 min between outputs
Insulation resistance*	for pollution degree II, measuring cat. III. Input/Bus - 300 V (PI), 150 (DI)
EMC	EN 61326-1 (Industrial use)
Seismic resistance	IEC 980: 1993, par.6

* PI - Primary insulation, DI - Double insulation

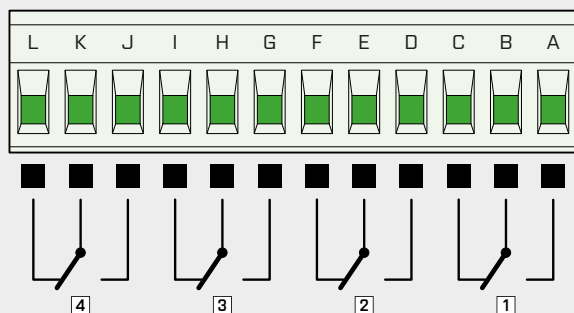
OUT.01

CONNECTION

OUT.01

ORDER CODE

OUT.1



OUT.01

Specifications Used only for customised versions



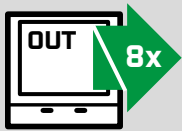
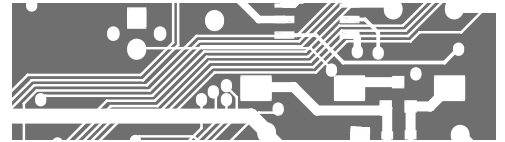
ORBIT MERRET, spol. s r. o.
Vodňanská 675/30
198 00 Praha 9
Czech republic

tel.: +420 281 040 200
fax.: +420 281 040 299
orbit@merret.eu
www.orbit.merret.eu



OUT.02

8x RELAYS WITH SWITCH-ON CONTACT



DIGITAL OUTPUTS
8x Relays with switch-on contact

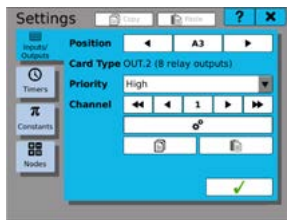
RATE
< 10 ms



CARD SETTINGS



THE FOLLOWING PARAMETERS ARE EDITED IN THE SETTING



Select the **Position of the card** to be set. Use buttons ◀ ▶ to scroll among the fitted cards.

Type of the card fitted in the specified position

Data transfer **priority** of the selected card. Bigger number of plugged-in cards slows down data flow on the bus. It can be optimized by setting priorities. The real value of the data flow can be then controlled in diagnostics. The maximum achievable data flow in slots A is 1100 frames/s, in slots B 550 frames/s.

Channel to be set. Use buttons ◀◀ ▶▶ to scroll among the channels. Number of possible selectable channels is determined by the card, which is being set



Button ⚙️ is used to navigate to the settings of the selected channel.

Limit MIN	setting the lower limit for switching
Limit MAX	setting the upper limit for switching
Hysteresis	shows the hysteresis range around the limit (on both sides, Limit. ±1/2 Hysteresis)
Activation delay	0,0...99,9 s setting the activation output delay
Deactivation delay	0,0...99,9 s setting the deactivation output delay
Permit MIN	<input checked="" type="checkbox"/> output is evaluated by the setting Limit MIN and MAX
Permit MAX	<input type="checkbox"/> output is set in binary form directly from the node
Inverted	<input checked="" type="checkbox"/> relay is in the active state OFF <input type="checkbox"/> relay is in the active state ON

INSTALLATION OF A NEW CARD

When installing a new card, always make sure the device is disconnected from the power supply!

1. Remove the back cover and break off the blinder of a vacant card position. It is recommended to place analogue cards into faster slots in column „A“ (Speed of the bus: Slot „A“ 1 ms, Slot „B“ 2 ms).
2. Remove the card from the shipping container and from the ESD packaging and insert it carefully into the selected slot until you feel a gentle snap
3. Replace the back cover and turn the device on
4. Setting of the card is described in the preceding paragraph

OUT.02

TECHNICAL DATA

OUTPUTS

Number	8, isolated
Type	Relays with switch-on contact (Form A) ON/OFF
Maximum switching U and I	250 VAC/30 VDC/3 A
Maximum switching power	2 500 VA/240 W
Relays	1/8 HP 277 VAC, 1/10 HP 125 V, Pilot Duty D300
Rate	< 10 ms

TECHNICAL SPECIFICATION

Watch-dog	reset after 500 ms
Calibration	at 25°C and 40 % r.h.

POWER SUPPLY

Power supply	5 VDC, 24 VDC
Consumption	max. 150 mA

MECHANIC PROPERTIES

Dimensions	65 x 98 mm
Installation	to OMR 700

OPERATING CONDITIONS

Connection	connector terminal board, cross section < 2,5 mm ²
Working temperature	-20°...60°C
Storage temperature	-20°...95°C
IP rating	IP00
Construction	safety class I
El. safety	EN 61010-1, A2
Dielectric strength	2,5 kVAC over 1 min between bus and inputs 2,5 kVAC over 1 min between outputs
Insulation resistance*	for pollution degree II, measuring cat. III. Input/Bus - 300 V (PI), 150 (DI)
EMC	EN 61326-1 (Industrial use)
Seismic resistance	IEC 980: 1993, par.6

* PI - Primary insulation, DI - Double insulation

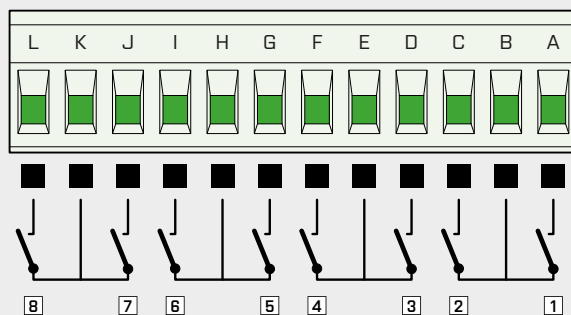
OUT.02

CONNECTION

OUT.02

ORDER CODE

OUT.2

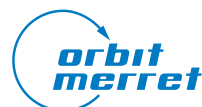


OUT.02

Specifications Used only for customised versions



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ORBIT MERRET, spol. s r. o.
Vodňanská 675/30
198 00 Praha 9
Czech republic

tel.: +420 281 040 200

fax.: +420 281 040 299

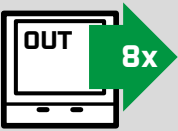
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www.orbit.merret.eu



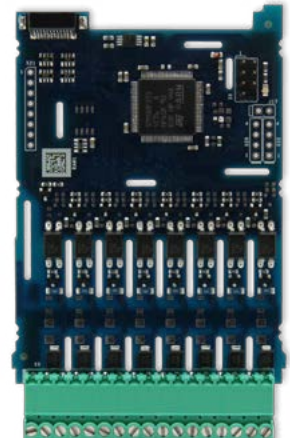
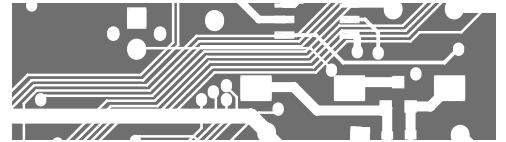
OUT.03

8x OPEN COLLECTOR, NPN

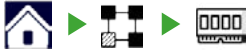


DIGITAL OUTPUT
8x open collector, NPN

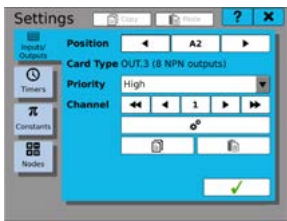
RATE
< 5 ms



CARD SETTINGS



THE FOLLOWING PARAMETERS ARE EDITED IN THE SETTING



Select the **Position of the card** to be set. Use buttons ◀ ▶ to scroll among the fitted cards.

Type of the card fitted in the specified position

Data transfer **priority** of the selected card. Bigger number of plugged-in cards slows down data flow on the bus. It can be optimized by setting priorities. The real value of the data flow can be then controlled in diagnostics. The maximum achievable data flow in slots A is 1100 frames/s, in slots B 550 frames/s.

Channel to be set. Use buttons ◀◀ ▶▶ to scroll among the channels. Number of possible selectable channels is determined by the card, which is being set



Button ⚙️ is used to navigate to the settings of the selected channel.

Limit MIN	setting the lower limit for switching
Limit MAX	setting the upper limit for switching
Hysteresis	shows the hysteresis range around the limit (on both sides, Limit. ±1/2 Hysteresis)
Activation delay	0,0...99,9 s setting the activation output delay
Deactivation delay	0,0...99,9 s setting the deactivation output delay
Permit MIN	<input checked="" type="checkbox"/> output is evaluated by the setting Limit MIN and MAX
Permit MAX	<input type="checkbox"/> output is set in binary form directly from the node
Inverted	<input checked="" type="checkbox"/> relay is in the active state OFF <input type="checkbox"/> relay is in the active state ON

INSTALLATION OF A NEW CARD

When installing a new card, always make sure the device is disconnected from the power supply!

1. Remove the back cover and break off the blinder of a vacant card position. It is recommended to place analogue cards into faster slots in column „A“ (Speed of the bus: Slot „A“ 1 ms, Slot „B“ 2 ms).
2. Remove the card from the shipping container and from the ESD packaging and insert it carefully into the selected slot until you feel a gentle snap
3. Replace the back cover and turn the device on
4. Setting of the card is described in the preceding paragraph

OUT.03

TECHNICAL DATA

OUTPUTS

Number	8
Type	Open collectors, NPN ON/OFF, PWM
Maximum switching U and I	30 VDC/300 mA
Maximum switching power	9 W
Rate	< 5 ms

TECHNICAL SPECIFICATION

Watch-dog	reset after 500 ms
Calibration	at 25°C and 40 % r.h.

POWER SUPPLY

Power supply	5 VDC
Consumption	max. 150 mA

MECHANIC PROPERTIES

Dimensions	65 x 98 mm
Installation	to OMR 700

OPERATING CONDITIONS

Connection	connector terminal board, cross section < 1,5 mm ²
Working temperature	-20°...60°C
Storage temperature	-20°...85°C
IP rating	IP00
Construction	safety class I
El. safety	EN 61010-1, A2
Dielectric strength	2,5 kVAC over 1 min between bus and inputs
Insulation resistance*	for pollution degree II, measuring cat. III. 300 V (ZI), 150 (DI)
EMC	EN 61326-1 (Industrial use)
Seismic resistance	IEC 980: 1993, čl.6

* PI - Primary insulation, DI - Double insulation

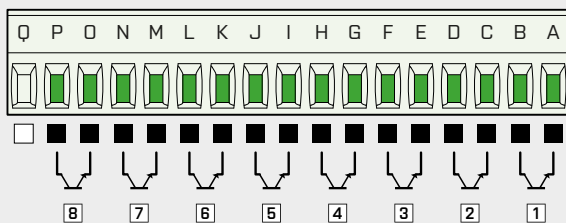
OUT.03

CONNECTION

OUT.03

ORDER CODE

OUT.03



OUT.03

Specifications Used only for customised versions



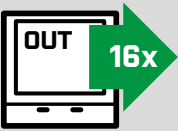
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Vodňanská 675/30
198 00 Praha 9
Czech republic

tel.: +420 281 040 200
fax.: +420 281 040 299
orbit@merret.eu
www.orbit.merret.eu



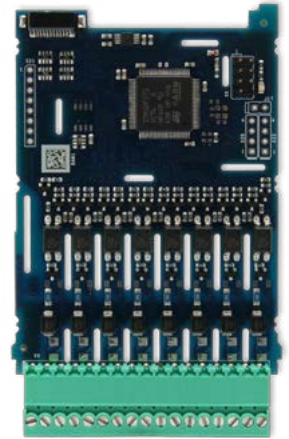
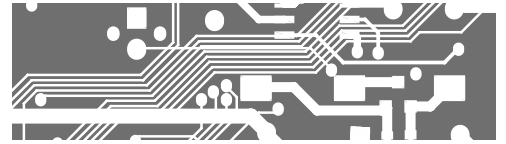
OUT.04

16x OPEN COLLECTOR, NPN



DIGITAL OUTPUT
16x open collector, NPN

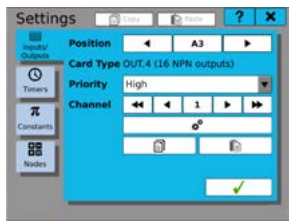
RATE
< 5 ms



CARD SETTINGS



THE FOLLOWING PARAMETERS ARE EDITED IN THE SETTING



Select the **Position of the card** to be set. Use buttons ◀ ▶ to scroll among the fitted cards.

Type of the card fitted in the specified position

Data transfer **priority** of the selected card. Bigger number of plugged-in cards slows down data flow on the bus. It can be optimized by setting priorities. The real value of the data flow can be then controlled in diagnostics. The maximum achievable data flow in slots A is 1100 frames/s, in slots B 550 frames/s.

Channel to be set. Use buttons ◀◀ ▶▶ to scroll among the channels. Number of possible selectable channels is determined by the card, which is being set



Button ⚙️ is used to navigate to the settings of the selected channel.

Limit MIN	setting the lower limit for switching
Limit MAX	setting the upper limit for switching
Hysteresis	shows the hysteresis range around the limit (on both sides, Limit. ±1/2 Hysteresis)
Activation delay	0,0...99,9 s setting the activation output delay
Deactivation delay	0,0...99,9 s setting the deactivation output delay
Permit MIN	<input checked="" type="checkbox"/> output is evaluated by the setting Limit MIN and MAX
Permit MAX	<input type="checkbox"/> output is set in binary form directly from the node
Inverted	<input checked="" type="checkbox"/> relay is in the active state OFF <input type="checkbox"/> relay is in the active state ON

INSTALLATION OF A NEW CARD

When installing a new card, always make sure the device is disconnected from the power supply!

1. Remove the back cover and break off the blinder of a vacant card position. It is recommended to place analogue cards into faster slots in column „A“ (Speed of the bus: Slot „A“ 1 ms, Slot „B“ 2 ms).
2. Remove the card from the shipping container and from the ESD packaging and insert it carefully into the selected slot until you feel a gentle snap
3. Replace the back cover and turn the device on
4. Setting of the card is described in the preceding paragraph

OUT.04

TECHNICAL DATA

OUTPUTS

Number	16
Type	Open collectors, NPN ON/OFF, PWM
Maximum switching U and I	30 VDC/300 mA
Maximum switching power	9 W
Rate	< 5 ms

TECHNICAL SPECIFICATION

Watch-dog	reset after 500 ms
Calibration	at 25°C and 40 % r.h.

POWER SUPPLY

Power supply	5 VDC
Consumption	max. 150 mA

MECHANIC PROPERTIES

Dimensions	65 x 98 mm
Installation	to OMR 700

OPERATING CONDITIONS

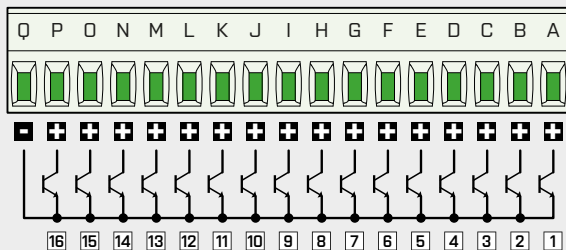
Connection	connector terminal board, cross section < 1,5 mm ²
Working temperature	-20°...60°C
Storage temperature	-20°...85°C
IP rating	IP00
Construction	safety class I
El. safety	EN 61010-1, A2
Dielectric strength	2,5 kVAC over 1 min between bus and inputs
Insulation resistance*	for pollution degree II, measuring cat. III. 300 V (ZI), 150 (DI)
EMC	EN 61326-1 (Industrial use)
Seismic resistance	IEC 980: 1993, čl.6

* PI - Primary insulation, DI - Double insulation

OUT.04

CONNECTION

OUT.4



OUT.04

ORDER CODE

OUT.04

Specifications Used only for customised versions



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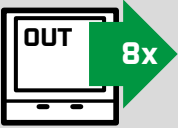
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Vodňanská 675/30
198 00 Praha 9
Czech republic

tel.: +420 281 040 200
fax.: +420 281 040 299
orbit@merret.eu
www.orbit.merret.eu



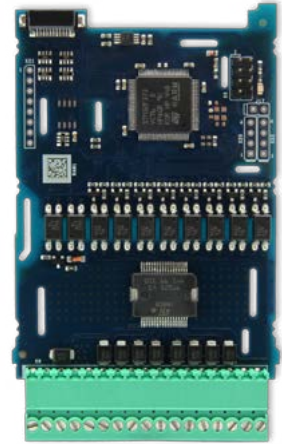
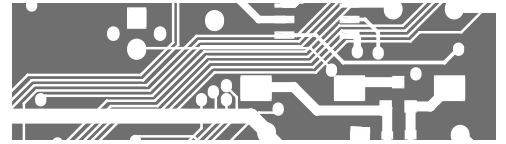
OUT.05

8x OPEN COLLECTOR, PNP

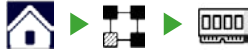


DIGITAL OUTPUT
8x open collector, PNP

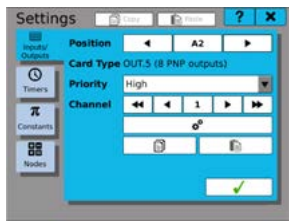
RATE
< 5 ms



CARD SETTINGS



THE FOLLOWING PARAMETERS ARE EDITED IN THE SETTING



Select the **Position of the card** to be set. Use buttons ◀ ▶ to scroll among the fitted cards.

Type of the card fitted in the specified position

Data transfer **priority** of the selected card. Bigger number of plugged-in cards slows down data flow on the bus. It can be optimized by setting priorities. The real value of the data flow can be then controlled in diagnostics. The maximum achievable data flow in slots A is 1100 frames/s, in slots B 550 frames/s.

Channel to be set. Use buttons ◀◀ ▶▶ to scroll among the channels. Number of possible selectable channels is determined by the card, which is being set



Button ⚙️ is used to navigate to the settings of the selected channel.

Limit MIN	setting the lower limit for switching
Limit MAX	setting the upper limit for switching
Hysteresis	shows the hysteresis range around the limit (on both sides, Limit. ±1/2 Hysteresis)
Activation delay	0,0...99,9 s setting the activation output delay
Deactivation delay	0,0...99,9 s setting the deactivation output delay
Permit MIN	<input checked="" type="checkbox"/> output is evaluated by the setting Limit MIN and MAX
Permit MAX	<input type="checkbox"/> output is set in binary form directly from the node
Inverted	<input checked="" type="checkbox"/> relay is in the active state OFF <input type="checkbox"/> relay is in the active state ON

INSTALLATION OF A NEW CARD

When installing a new card, always make sure the device is disconnected from the power supply!

1. Remove the back cover and break off the blinder of a vacant card position. It is recommended to place analogue cards into faster slots in column „A“ (Speed of the bus: Slot „A“ 1 ms, Slot „B“ 2 ms).
2. Remove the card from the shipping container and from the ESD packaging and insert it carefully into the selected slot until you feel a gentle snap
3. Replace the back cover and turn the device on
4. Setting of the card is described in the preceding paragraph

OUT.05

TECHNICAL DATA

OUTPUTS

Number	8
Type	Open collectors, PNP ON/OFF, PWM with protection against short circuit and overload
Maximum switching U and I	12...30 VDC/700 mA
Maximum switching power	21 W
Rate	< 5 ms

TECHNICAL SPECIFICATION

Watch-dog	reset after 500 ms
Calibration	at 25°C and 40 % r.h.

POWER SUPPLY

Power supply	5 VDC
Consumption	max. 150 mA

MECHANIC PROPERTIES

Dimensions	65 x 98 mm
Installation	to OMR 700

OPERATING CONDITIONS

Connection	connector terminal board, cross section < 1,5 mm ²
Working temperature	-20°...60°C
Storage temperature	-20°...85°C
IP rating	IP00
Construction	safety class I
El. safety	EN 61010-1, A2
Dielectric strength	2,5 kVAC over 1 min between bus and inputs
Insulation resistance*	for pollution degree II, measuring cat. III. 300 V (ZI), 150 (DI)
EMC	EN 61326-1 (Industrial use)
Seismic resistance	IEC 980: 1993, čl.6

* PI - Primary insulation, DI - Double insulation

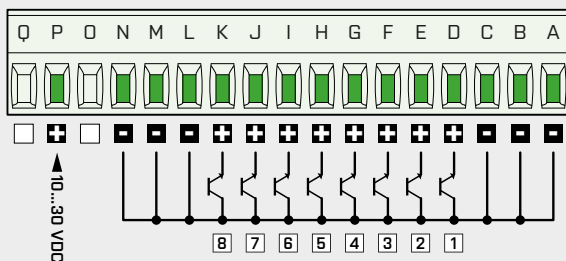
OUT.05

CONNECTION

OUT.05

ORDER CODE

OUT.5

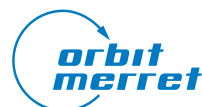


OUT.05

Specifications Used only for customised versions



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ORBIT MERRET, spol. s r. o.
Vodňanská 675/30
198 00 Praha 9
Czech republic

tel.: +420 281 040 200

fax.: +420 281 040 299

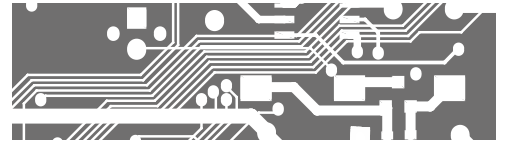
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OUT.06

6x SSR OUTPUT

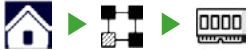


DIGITAL OUTPUT
6x SSR

RATE
< 5 ms



CARD SETTINGS



THE FOLLOWING PARAMETERS ARE EDITED IN THE SETTING

Select the **Position of the card** to be set. Use buttons ◀ ▶ to scroll among the fitted cards.

Type of the card fitted in the specified position

Data transfer **priority** of the selected card. Bigger number of plugged-in cards slows down data flow on the bus. It can be optimized by setting priorities. The real value of the data flow can be then controlled in diagnostics. The maximum achievable data flow in slots A is 1100 frames/s, in slots B 550 frames/s.

Channel to be set. Use buttons ◀◀ ◀ ▶▶ to scroll among the channels. Number of possible selectable channels is determined by the card, which is being set

Button ⚙️ is used to navigate to the settings of the selected channel.

INSTALLATION OF A NEW CARD

When installing a new card, always make sure the device is disconnected from the power supply!

1. Remove the back cover and break off the blinder of a vacant card position. It is recommended to place analogue cards into faster slots in column „A“ (Speed of the bus: Slot „A“ 1 ms, Slot „B“ 2 ms).
2. Remove the card from the shipping container and from the ESD packaging and insert it carefully into the selected slot until you feel a gentle snap
3. Replace the back cover and turn the device on
4. Setting of the card is described in the preceding paragraph

Preliminary

OUT.06

TECHNICAL DATA

OUTPUTS

Number	6
Type	SSR
Maximum switching U and I	250 VAC/1A
Maximum switching power	250 VA
Rate	< 5 ms

TECHNICAL SPECIFICATION

Watch-dog	reset after 500 ms
Calibration	at 25°C and 40 % r.h.

POWER SUPPLY

Power supply	5 VDC
Consumption	max. 150 mA

MECHANIC PROPERTIES

Dimensions	65 x 98 mm
Installation	to OMR 700

OPERATING CONDITIONS

Connection	connector terminal board, cross section < 1,5 mm ²
Working temperature	-20°...60°C
Storage temperature	-20°...85°C
IP rating	IP00
Construction	safety class I
El. safety	EN 61010-1, A2
Dielectric strength	2,5 kVAC over 1 min between bus and inputs
Insulation resistance*	for pollution degree II, measuring cat. III. 300 V (ZI), 150 (DI)
EMC	EN 61326-1 (Industrial use)
Seismic resistance	IEC 980: 1993, čl.6

* PI - Primary insulation, DI - Double insulation

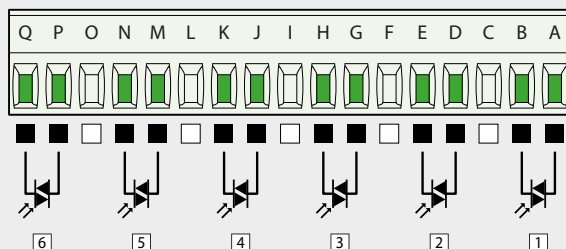
OUT.06

CONNECTION

OUT.06

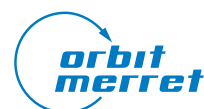
ORDER CODE

OUT.06



OUT.06

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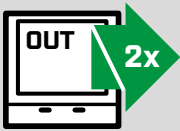
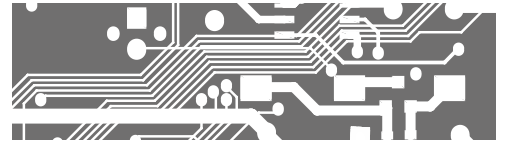
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AO.01

2x ANALOGUE OUTPUT, ISOLATED



ANALOGUE OUTPUT
 0...5/10 V/±5/±10 V
 0...5/0...20 mA/4...20 mA

RATE
 < 5 ms

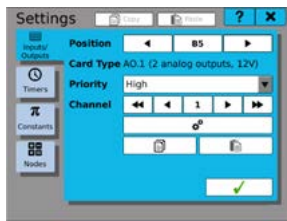
ACCURACY
 0,1 % of range



CARD SETTINGS



THE FOLLOWING PARAMETERS ARE EDITED IN THE SETTING

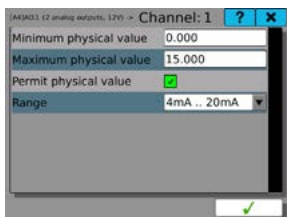


Select the **Position of the card** to be set. Use buttons ◀ ▶ to scroll among the fitted cards.

Type of the card fitted in the specified position

Data transfer **priority** of the selected card. Bigger number of plugged-in cards slows down data flow on the bus. It can be optimized by setting priorities. The real value of the data flow can be then controlled in diagnostics. The maximum achievable data flow in slots A is 1100 frames/s, in slots B 550 frames/s.

Channel to be set. Use buttons ◀◀ ▶▶ to scroll among the channels. Number of possible selectable channels is determined by the card, which is being set



Button ⚙️ is used to navigate to the settings of the selected channel.

Min. physic. value	value that corresponds to the minimum selected range of the input values
Max. physic. value	value that corresponds to the maximum selected range of input values
Permit physical value	<input checked="" type="checkbox"/> output is evaluated according to the setting Min. and Max. value <input type="checkbox"/> output is set on electrical value directly from the node
Range	0...5 mA ▶ 0...20 mA ▶ 4...20 mA ▶ 0...5 V ▶ 0...10 V ▶ ±5 V ▶ ±10 V

INSTALLATION OF A NEW CARD

When installing a new card, always make sure the device is disconnected from the power supply!

1. Remove the back cover and break off the blinder of a vacant card position. It is recommended to place analogue cards into faster slots in column „A“ (Speed of the bus: Slot „A“ 1 ms, Slot „B“ 2 ms).
2. Remove the card from the shipping container and from the ESD packaging and insert it carefully into the selected slot until you feel a gentle snap
3. Replace the back cover and turn the device on
4. Setting of the card is described in the preceding paragraph

AO.01

TECHNICAL DATA

OUTPUTS

Number	2, isolated
Type	analogue - universal
Range	0...5/10 V, $\pm 5/\pm 10$ V 1 0...5/0...20 mA, 4...20 mA 2
TC	50 ppm/°C
Accuracy	0,1% of range
Response rate	< 5 ms
Resolution	16 bitů
Leads resistance compensation	> 500 Ω

TECHNICAL SPECIFICATION

TC	50 ppm/°C
Watch-dog	reset after 500 ms
Calibration	at 25°C and 40 % r.h.

POWER SUPPLY

Power supply	5 VDC, 24 VDC
Consumption	max. 150 mA

MECHANIC PROPERTIES

Dimensions	65 x 98 mm
Installation	to QMR 700

OPERATING CONDITIONS

Connection	connector terminal board, cross section < 1,5 mm ²
Working temperature	-20°...60°C
Storage temperature	-20°...85°C
IP rating	IP00
Construction	safety class I
El. safety	EN 61010-1, A2
Dielectric strength	2,5 kVAC over 1 min between bus and inputs 1 kVAC over 1 min between outputs
Insulation resistance*	for pollution degree II, measuring cat. III. Input/Bus - 300 V (PI), 150 (DI) output/output - 150 V (ZI), 100 (DI)
EMC	EN 61326-1 (Industrial use)
Seismic resistance	IEC 980: 1993, čl.6

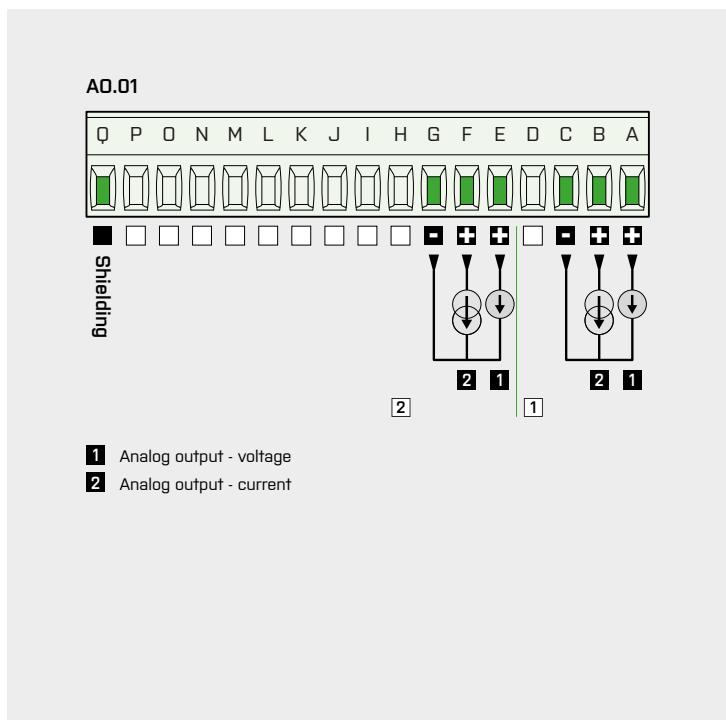
* PI - Primary insulation, DI - Double insulation

AO.01

CONNECTION

AO.01

ORDER CODE

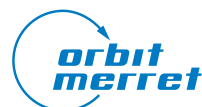


AO.01

Specifications Used only for customised versions



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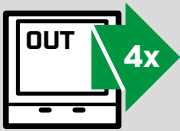
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AO.02

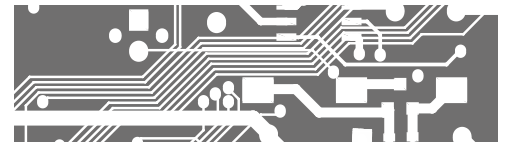
4x ANALOGUE OUTPUT, ISOLATED



ANALOGUE OUTPUT
 0...5/10 V/±5/±10 V
 0...5/0...20 mA/4...20 mA

RATE
 < 5 ms

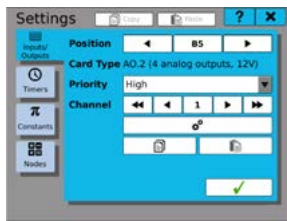
ACCURACY
 0,1 % of range



CARD SETTINGS



THE FOLLOWING PARAMETERS ARE EDITED IN THE SETTING

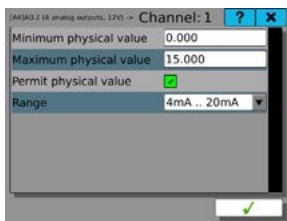


Select the **Position of the card** to be set. Use buttons ◀ ▶ to scroll among the fitted cards.

Type of the card fitted in the specified position

Data transfer **priority** of the selected card. Bigger number of plugged-in cards slows down data flow on the bus. It can be optimized by setting priorities. The real value of the data flow can be then controlled in diagnostics. The maximum achievable data flow in slots A is 1100 frames/s, in slots B 550 frames/s.

Channel to be set. Use buttons ◀◀ ◀ ▶▶ ▶▶ to scroll among the channels. Number of possible selectable channels is determined by the card, which is being set



Button ⚙️ is used to navigate to the settings of the selected channel.

Min. physic. value	value that corresponds to the minimum selected range of the input values
Max. physic. value	value that corresponds to the maximum selected range of input values
Permit physical value	<input checked="" type="checkbox"/> output is evaluated according to the setting Min. and Max. value <input type="checkbox"/> output is set on electrical value directly from the node
Range	0...5 mA ▶ 0...20 mA ▶ 4...20 mA ▶ 0...5 V ▶ 0...10 V ▶ ±5 V ▶ ±10 V

INSTALLATION OF A NEW CARD

When installing a new card, always make sure the device is disconnected from the power supply!

1. Remove the back cover and break off the blinder of a vacant card position. It is recommended to place analogue cards into faster slots in column „A“ (Speed of the bus: Slot „A“ 1 ms, Slot „B“ 2 ms).
2. Remove the card from the shipping container and from the ESD packaging and insert it carefully into the selected slot until you feel a gentle snap
3. Replace the back cover and turn the device on
4. Setting of the card is described in the preceding paragraph

AO.02

TECHNICAL DATA

OUTPUTS

Number	4, isolated
Type	analogue - universal
Range	0...5/10 V, $\pm 5/\pm 10$ V 1 0...5/0...20 mA, 4...20 mA 2
TC	50 ppm/°C
Accuracy	0,1% of range
Response rate	< 5 ms
Resolution	16 bitů
Leads resistance compensation	> 500 Ω

TECHNICAL SPECIFICATION

TC	50 ppm/°C
Watch-dog	reset after 500 ms
Calibration	at 25°C and 40 % r.h.

POWER SUPPLY

Power supply	5 VDC, 24 VDC
Consumption	max. 150 mA

MECHANIC PROPERTIES

Dimensions	65 x 98 mm
Installation	to QMR 700

OPERATING CONDITIONS

Connection	connector terminal board, cross section < 1,5 mm ²
Working temperature	-20°...60°C
Storage temperature	-20°...85°C
IP rating	IP00
Construction	safety class I
El. safety	EN 61010-1, A2
Dielectric strength	2,5 kVAC over 1 min between bus and inputs 1 kVAC over 1 min between outputs
Insulation resistance*	for pollution degree II, measuring cat. III. Input/Bus - 300 V (PI), 150 (DI) output/output - 150 V (ZI), 100 (DI)
EMC	EN 61326-1 (Industrial use)
Seismic resistance	IEC 980: 1993, čl.6

* PI - Primary insulation, DI - Double insulation

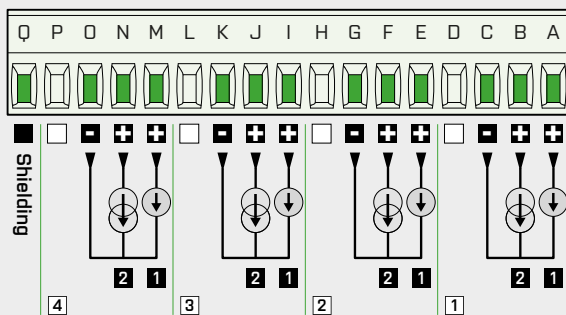
AO.02

CONNECTION

AO.02

ORDER CODE

AO.02



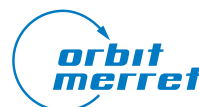
- 1** Analog output - voltage
- 2** Analog output - current

AO.02

Specifications Used only for customised versions



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Vodňanská 675/30
198 00 Praha 9
Czech republic

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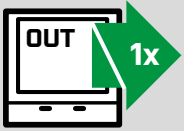
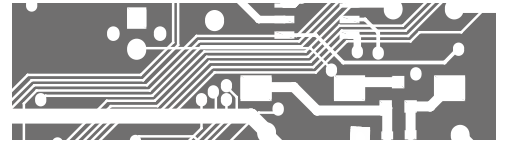
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DO.01

1x PROFIBUS DP

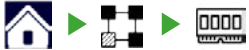


DATA OUTPUT
PROFIBUS DP

RATE
< 12 MBit/s



CARD SETTINGS



THE FOLLOWING PARAMETERS ARE EDITED IN THE SETTING

Select the **Position of the card** to be set. Use buttons ◀ ▶ to scroll among the fitted cards.

Type of the card fitted in the specified position

Data transfer **priority** of the selected card. Bigger number of plugged-in cards slows down data flow on the bus. It can be optimized by setting priorities. The real value of the data flow can be then controlled in diagnostics. The maximum achievable data flow in slots A is 1100 frames/s, in slots B 550 frames/s.

Channel to be set. Use buttons ◀◀ ▶▶ to scroll among the channels. Number of possible selectable channels is determined by the card, which is being set

Button ⚙️ is used to navigate to the settings of the selected channel.

INSTALLATION OF A NEW CARD

When installing a new card, always make sure the device is disconnected from the power supply!

1. Remove the back cover and break off the blinder of a vacant card position. It is recommended to place analogue cards into faster slots in column „A“ (Speed of the bus: Slot „A“ 1 ms, Slot „B“ 2 ms).
2. Remove the card from the shipping container and from the ESD packaging and insert it carefully into the selected slot until you feel a gentle snap
3. Replace the back cover and turn the device on
4. Setting of the card is described in the preceding paragraph

Preliminary

DO.01

TECHNICAL DATA

OUTPUT

Number	1, isolated
Type	digital
Protocol	PROFIBUS DP
Rate	9.6 kBit/s...12 000 kBit/s
Connection	9-pin SUB-D (Canon) or terminal board

TECHNICAL SPECIFICATION

TC	50 ppm/°C
Watch-dog	reset after 500 ms
Calibration	at 25°C and 40 % r.h.

POWER SUPPLY

Power supply	3,3 VDC, 24 VDC
Consumption	max. 150 mA

MECHANIC PROPERTIES

Dimensions	65 x 98 mm
Installation	to QMR 700

OPERATING CONDITIONS

Connection	connector terminal board, cross section < 1,5 mm ² , Cannon 9
Working temperature	-20°...60°C
Storage temperature	-20°...85°C
IP rating	IP00
Construction	safety class I
El. safety	EN 61010-1, A2
Dielectric strength	2,5 kVAC over 1 min between bus and inputs
Insulation resistance*	for pollution degree II, measuring cat. III. Input/Bus - 300 V (PI), 150 (DI)
EMC	EN 61326-1 (Industrial use)
Seismic resistance	IEC 980: 1993, čl.6

* PI - Primary insulation, DI - Double insulation

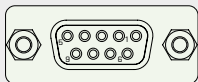
DO.01

CONNECTION

DO.01

ORDER CODE

DO.1



Pin assignment

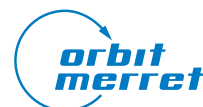
- 3** B: RxD/TxD-P data reception/transmission, positive
- 4** CNTR: signal for repeater control
- 5** DGND: reference potential for data and +5 V
- 6** VP: +5 V
- 8** A: RxD/TxD-N data reception/transmission, negative

DO.01

Specifications Used only for customised versions



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Vodňanská 675/30
198 00 Praha 9
Czech republic

tel.: +420 281 040 200
fax.: +420 281 040 299

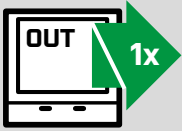
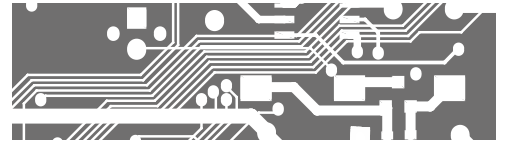
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DO.02

1x PROFINET

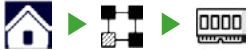


DATA OUTPUT
PROFINET

RATE
< 12 MBit/s



CARD SETTINGS



THE FOLLOWING PARAMETERS ARE EDITED IN THE SETTING

Select the **Position of the card** to be set. Use buttons ◀ ▶ to scroll among the fitted cards.

Type of the card fitted in the specified position

Data transfer **priority** of the selected card. Bigger number of plugged-in cards slows down data flow on the bus. It can be optimized by setting priorities. The real value of the data flow can be then controlled in diagnostics. The maximum achievable data flow in slots A is 1100 frames/s, in slots B 550 frames/s.

Channel to be set. Use buttons ◀◀ ▶▶ to scroll among the channels. Number of possible selectable channels is determined by the card, which is being set

Button ⚙️ is used to navigate to the settings of the selected channel.

INSTALLATION OF A NEW CARD

When installing a new card, always make sure the device is disconnected from the power supply!

1. Remove the back cover and break off the blinder of a vacant card position. It is recommended to place analogue cards into faster slots in column „A“ (Speed of the bus: Slot „A“ 1 ms, Slot „B“ 2 ms).
2. Remove the card from the shipping container and from the ESD packaging and insert it carefully into the selected slot until you feel a gentle snap
3. Replace the back cover and turn the device on
4. Setting of the card is described in the preceding paragraph

Preliminary

DO.02

TECHNICAL DATA

OUTPUT

Number	1, isolated
Type	digital
Protocol	PROFINET
Rate	9.6 kBit/s...12 000 kBit/s
Connection	2x RJ 45

TECHNICAL SPECIFICATION

TC	50 ppm/°C
Watch-dog	reset after 500 ms
Calibration	at 25°C and 40 % r.h.

POWER SUPPLY

Power supply	3,3 VDC, 24 VDC
Consumption	max. 150 mA

MECHANIC PROPERTIES

Dimensions	65 x 98 mm
Installation	to QMR 700

OPERATING CONDITIONS

Connection	connector terminal board, cross section < 1,5 mm ²
Working temperature	-20°...60°C
Storage temperature	-20°...85°C
IP rating	IP00
Construction	safety class I
El. safety	EN 61010-1, A2
Dielectric strength	2,5 kVAC over 1 min between bus and inputs 1 kVAC over 1 min between outputs
Insulation resistance*	for pollution degree II, measuring cat. III. Input / Bus - 300 V (PI), 150 (DI) output / output - 150 V (ZI), 100 (DI)
EMC	EN 61326-1 (Industrial use)
Seismic resistance	IEC 980: 1993, čl.6

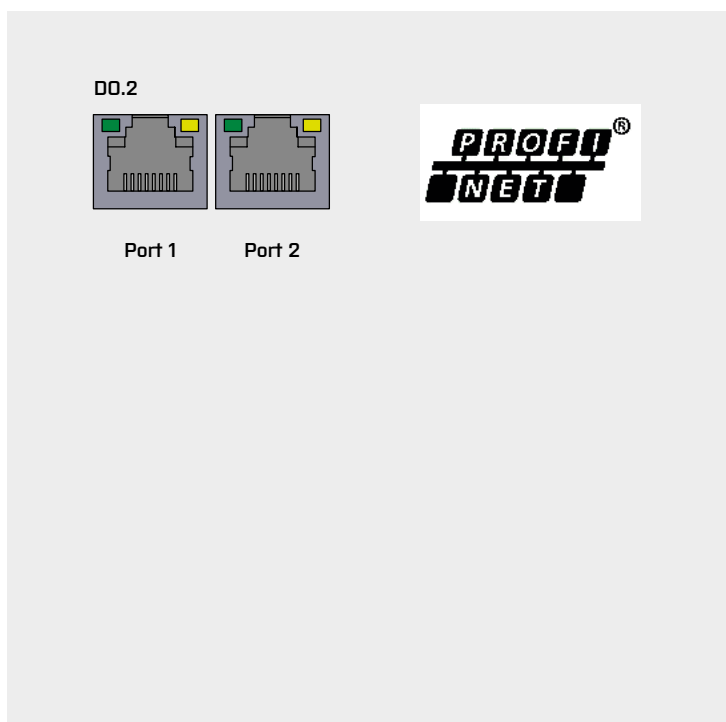
* PI - Primary insulation, DI - Double insulation

DO.02

CONNECTION


DO.02

ORDER CODE






DO.02

Specifications Used only for customised versions

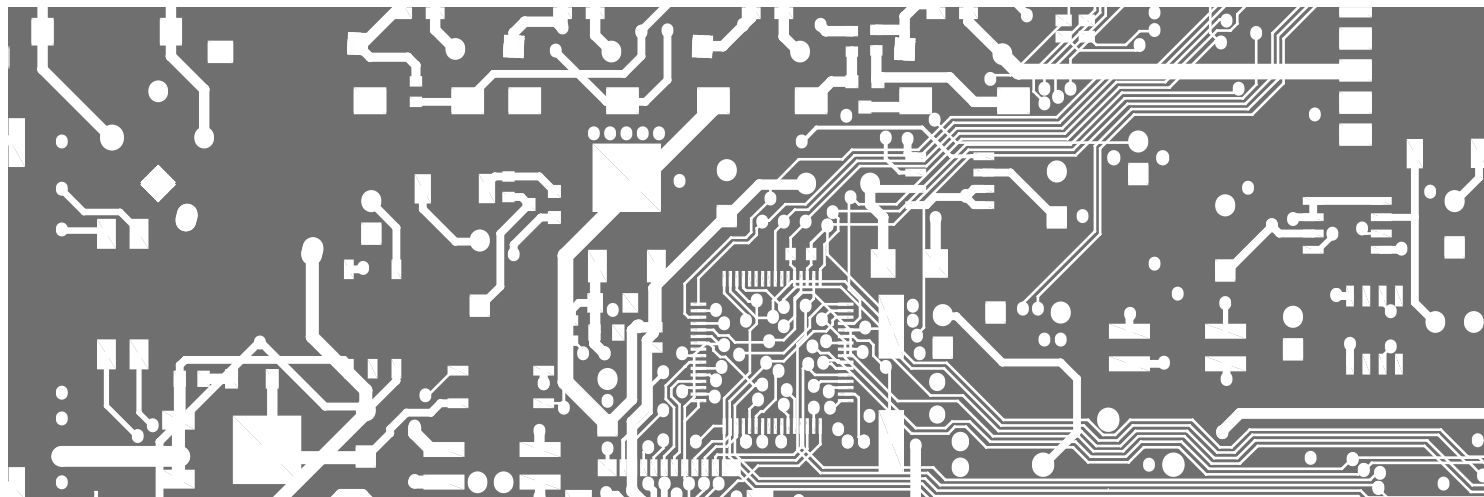


ORBIT MERRET, spol. s r. o.
 Vodňanská 675/30
 198 00 Praha 9
 Czech republic

tel.: +420 281 040 200
 fax.: +420 281 040 299
 orbit@merret.eu
www.orbit.merret.eu

MINI-TECHDOX - QMR 700 - DO.02 - 2016.1.0 - en



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ORBIT MERRET, spol. s r. o.

Vodňanská 675/30
198 00 Praha 9

Telefon: +420 281 040 200
Fax: +420 281 040 299
e-mail: orbit@merret.cz

www.orbit.merret.cz

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Rumunsko

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Ingenieros Asociados de Control S.L.
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Švýcarsko

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Thajsko

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