



OMR 700
PAPERLESS RECORDER





PAPERLESS RECORDER OMR 700

Modular data recorder with 8 slots for plug-in cards

- analogue inputs, max. 12 inputs/module
- digital inputs, max. 12 inputs/module
- analogue outputs, max. 4 outputs/module
- digital outputs, max. 10 outputs/module
- data outputs

Basic features of the recorder

- color TFT display 5,7" with a capacitive panel
- primary and backup system
- digital inputs and outputs
- record into internal memory, SD card or USB Flash
- Ethernet 10/100B, RS 485 – Modbus
- USB, microUSB
- internal data memory 2x 512 MB
- built-in speaker
- RTC
- size 150 x 150 mm
- protection IP64
- power supply 80...250 V AC/DC



INTRODUCING THE RECORDER

Company ORBIT MERRET launches a new product in its portfolio: Paperless recorder OMR 700.

This recorder is intended for technologies and workings where it is needed to display and/or record a number of electrical and nonelectrical values at one place. Universality, versatility and in particular good value for money predestine the recorder to fulfil most of your demanding needs including the IP64 of the front panel.

Our paperless recorder has been developed with versatility and intuitive control in mind. Thanks to its modularity the user can insert input or output cards into any of the 8 available slots. Maximal configuration of the recorder thus allows to measure and record up to 96 inputs. In order to increase reliability, the recorder has two systems - primary and backup.

Always on board are digital control inputs and outputs, communication RS 485, Ethernet, USB connector as well as 512 MB of internal memory to record the measured data.

PROJECTION

Color 5,7" TFT display with fine resolution dominates the device, and it therefore allows an ease of use.

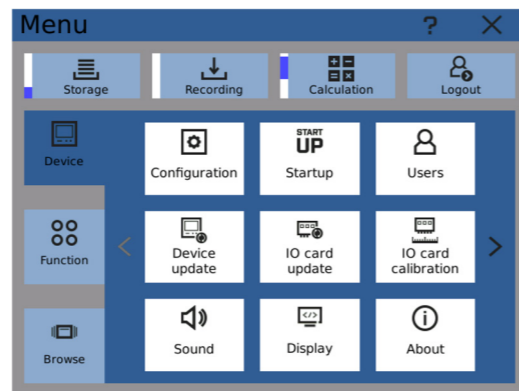
CONTROL

Recorder is controlled by both the touch screen and the push buttons with adjustable functions, positioned underneath the front door.

Two LEDs indicate run/error and state of data recording.

SETTING

All functions and settings can be performed directly on the instrument's display in a clear graphical menu.



DATA RECORDING

The OMR 700 can record measured data from any of its active inputs, nodes and mathematical functions. Data are stored in the internal 512 MB memory with compression that allows up to four-fold increase of its physical memory without slowing down. Data can also be stored on an external SD card or USB flash drive.

In case of a limited number of measuring inputs, measured data can be stored with a period of up to 1 ms.

The records can be either in BIN or „CVS“ format. However, the latter is much more demanding on memory space.

Recording speed according to number of channels / memory space

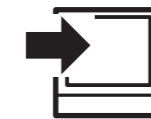
Recording speed	16 inputs	48 inputs	80 inputs	96 inputs
1 ms	2 hours	x	x	x
10 ms	20 hours	7,5 hours	x	x
1 s	2,5 months	1 months	16 days	13 days
1 min	13 years	5 years	2,5 years	2,2 years
10 min	132 years	52 years	26 years	22 years

MODULES

The development of the device has been performed with an increased emphasis on technical solutions and universality. Card design not only allows their use in any position of the recorder, but also their additional insertion into vacant slots. Thus, if new requirements to increase the number or type of inputs and outputs occur in the course of using the recorder, just order another card and insert it into a vacant slot. In this way the instrument can „grow“ in compliance with your requirements.

All analogue modules are fully isolated from the internal bus, and some cards have galvanic isolation even between individual channels.

Basic version of the recorder includes power supply module and communication module with Ethernet 10/100, RS 485 (ASCII, MODBUS), five digital inputs and two digital outputs.



- 3x universal - DC, PM, OHM, RTD, Ni, Cu, T/C, DU
- 12x DC - voltage/current input
- 4x/5x RTD input - Pt xxx, Ni xxx, Cu xxx
- 4x T/C input - J/K/T/E/B/S/R/N/L
- 2x DMS - input for strain gauges
- 3x DC - precise voltage and current input
- 2x AC/PWR - voltage/current/power/frequency
- 12x digital input 10...250 V AC/DC
- 12x input counter/frequency
- 2x input Up/DW counter/frequency/IRC



- 4x relay, Form C (SPDT)
- 8x relay, Form A (SPST)
- 8x open collector NPN
- 16x open collector NPN
- 8x open collector PNP
- 6x SSR
- 2x/4x analogue output
- 4x Excitation
- 1x PROFIBUS
- 1x PROFINET





...AND ON TOP OF IT

Under the hinged lid, which can be opened by a light pressure two blue locks, there is access to control push buttons, microUSB for recorder setting via PC, SD card slot, and USB Flash drive connector. In the bottom right corner you will find a Stylus for easier control of the recorder and for display drawings.

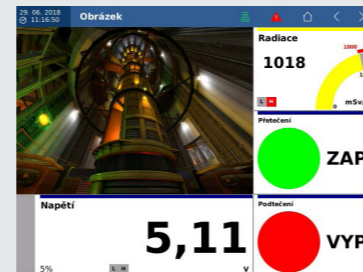
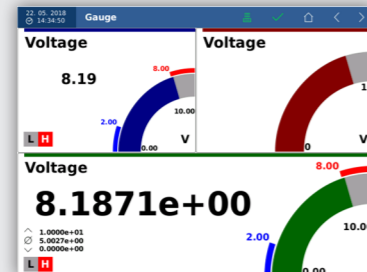
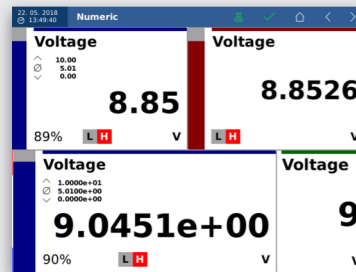
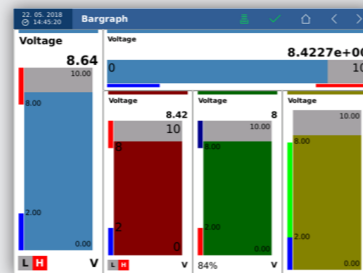
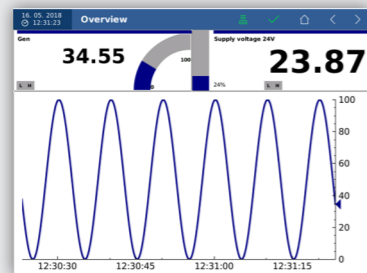
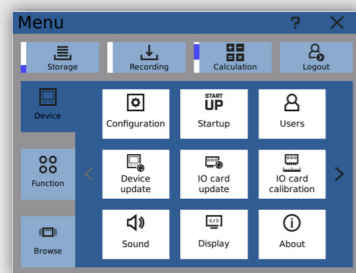


Cover of the lid is IP64 so that your recorder, SD card, and USB Flash drive will always stay dry..

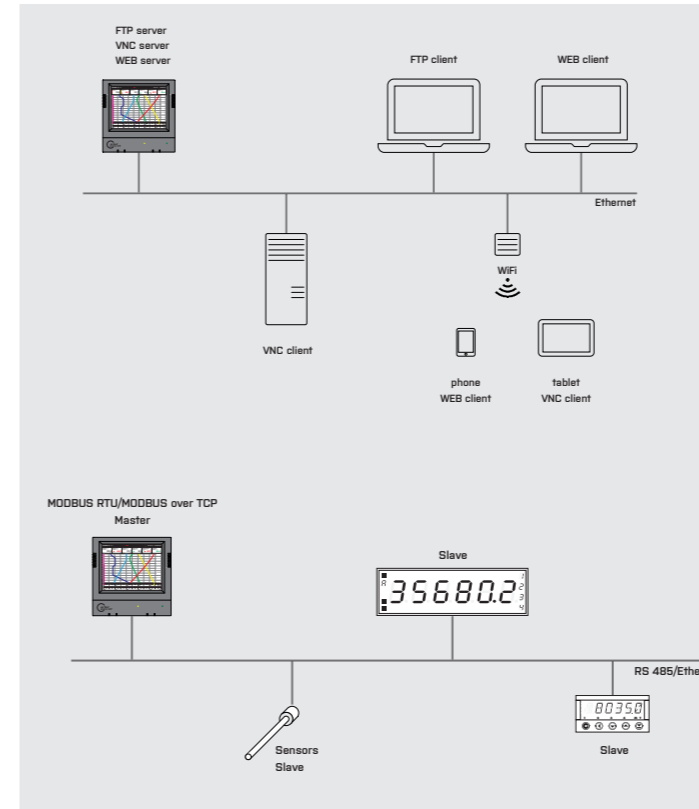
If necessary, a seal can be fitted to the hinged lid as a mechanical security against possible accidental opening. Your SD card or USB Flash drive will remain safely stored.



PROJECTION



DATA CONNECTION



In its basic version the recorder is equipped with Ethernet 10/100Base connection and it offers:

- display projection
- transfer of stored data (internal memory, SD card, USB Flash)
- recording of events

Other network functions are:

- sending e-mail*
- time synchronization
- DHCP, TCP/IP Modbus (client)

The second version, offering use of RS485 with a MODBUS RTU protocol

- up to 247 devices can be connected to the bus

The equipment can be used for:

- sensors connection
- projecting measured or calculated values on an external display, such as e.g. OMD 202RS

BENCHTOP AND OUTDOOR VERSIONS

OMA 710 is a portable bench top laboratory housing. The type and layout of connectors at the rear of the housing are identical to that of paperless recorder OMR 700.

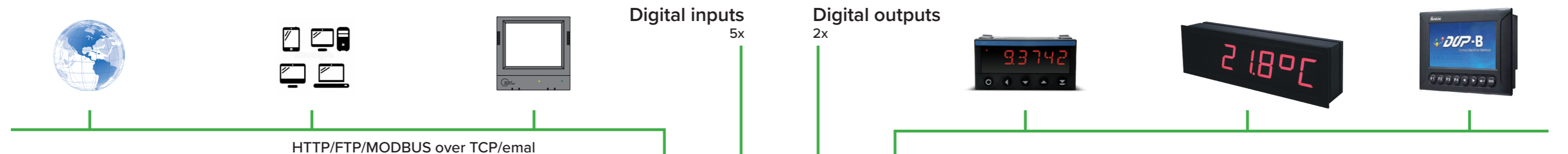


OMA 710



OMA 713

OMA 713 is a portable heavy duty housing for the OMR 700 designed for the most demanding environments. It resists dust, humidity and can withstand complete flooding. The portable housing is fitted with IP 67 rated connectors, which enable the recorder to be used in harsh conditions.



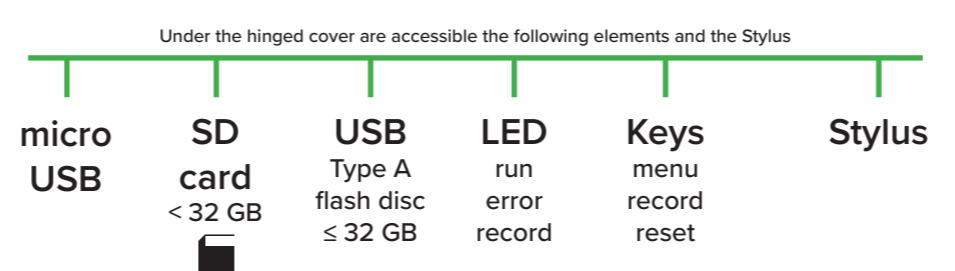
- IN.1 3x Universal input, isolated
DC: $\pm 60/\pm 150/\pm 300/\pm 1\ 200$ mV
PM: $0...5$ mA/ $0...20$ mA/ $4...20$ mA/ ± 20 mA/ ± 20 mA
 ± 2 V/ ± 5 V/ ± 10 V/ ± 40 V
OHM: $0...100$ Ω / $0...1/10/100$ k Ω /Auto
RTD: Pt 50/100/Pt 500/Pt 1 000
Cu: Cu 50/Cu 100
Ni: Ni 1 000/Ni 10 000
T/C: J/K/T/E/B/S/R/N/L
DU: Linear potentiometer (min. 500 Ω)
- IN.2 4x $0...5/20$ mA/ $4...20$ mA,
 $\pm 2/\pm 5/\pm 10/\pm 40$ V, isolated
- IN.6 12x $0...5/20$ mA/ $4...20$ mA
- IN.7 12x $\pm 2/\pm 5/\pm 10/\pm 40$ V
- IN.9 3x $0/4...20$ mA; $\pm 5/\pm 10$ V, isolated
- IN.3 4x input for Pt/Ni/Cu xxxx, isolated
2- and 3-wire connection
- IN.5 5x input for Pt/Ni/Cu xxxx
2- and 3-wire connection
- IN.4 4x input for thermocouples, isolated
J/K/T/E/B/S/R/N/L
with cold junction compensation
- IN.8 2x input for strain gauges, isolated
range: $1...2/8/16$ mV/V
with sensor power supply
- IN.10 2x AC/PWR input, isolated
 $0...450$ V/ $0...5$ A
voltage, current, power, frequency
- IN.10 8x digital input
 $12...250$ V AC/DC
- IN.12 12x counter/frequency
 < 10 kHz
- IN.13 2x UP/DW counter/frequency/IRC
 < 1 MHz

Ethernet
Standard equipment

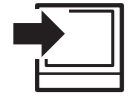
RS 485
Standard equipment



- OUT.1 4x Relay with a switch-over contact
- OUT.2 8x Relay with a switch-on contact
- OUT.3 8x open collector, NPN
- OUT.4 16x open collector, NPN with common terminal
- OUT.5 8x open collector, PNP
- OUT.6 6x SSR
- AO.1 2x Analogue output, isolated
- AO.2 4x Analogue output, isolated
- EXC.1 4x Excitation, isolated
- DO.1 1x PROFIBUS
- DO.2 1x PROFINET

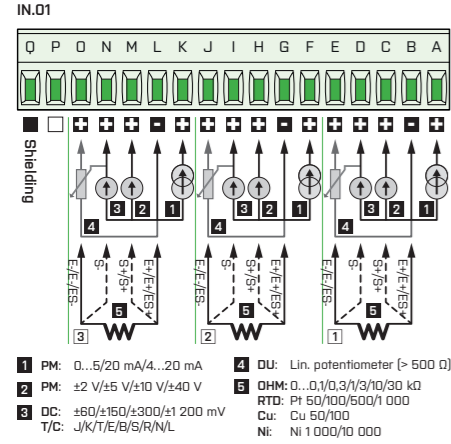


Recorder can hold up to 8 cards in any combination

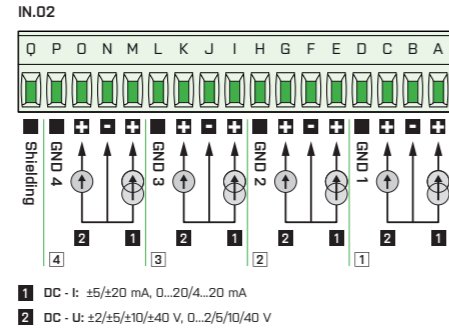


CONNECTION – INPUT

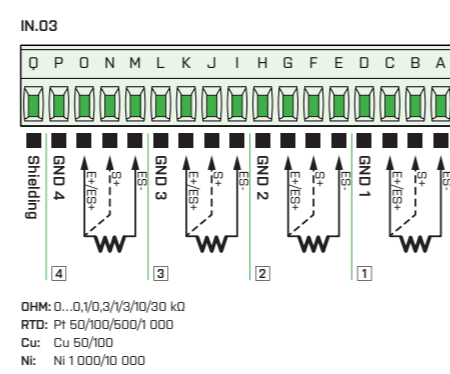
IN.1 3x Universal input



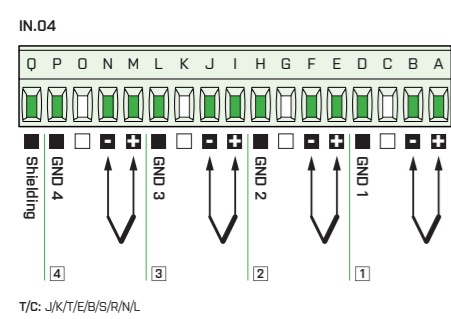
IN.2 4x PM input U-I



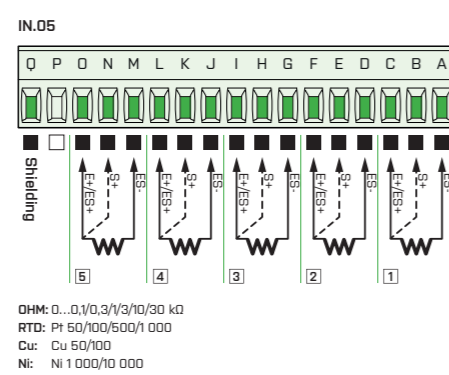
IN.3 4x RTD input



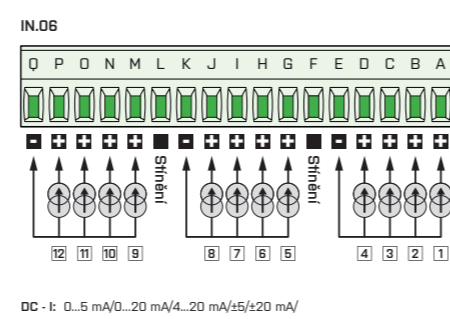
IN.4 4x T/C input



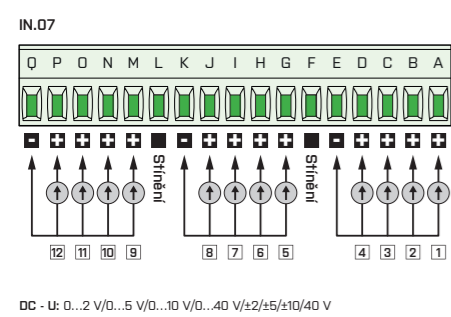
IN.5 5x RTD input



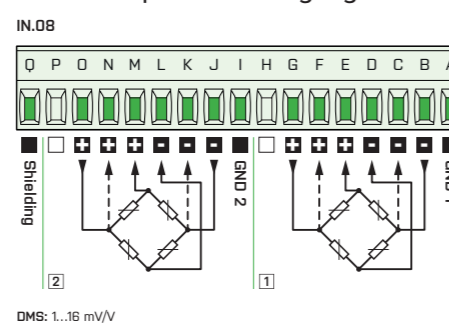
IN.6 12x DC input, current



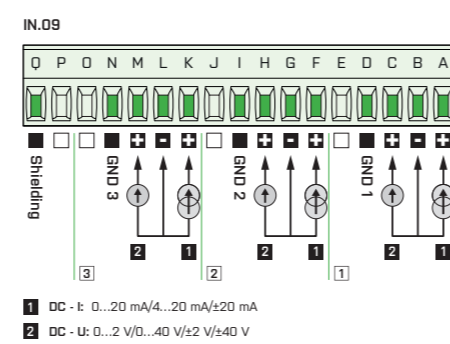
IN.7 12x DC input, voltage



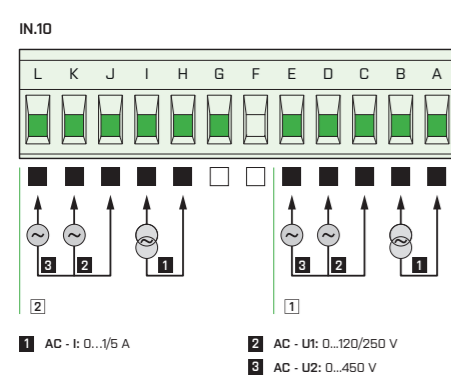
IN.8 2x input for strain gauges



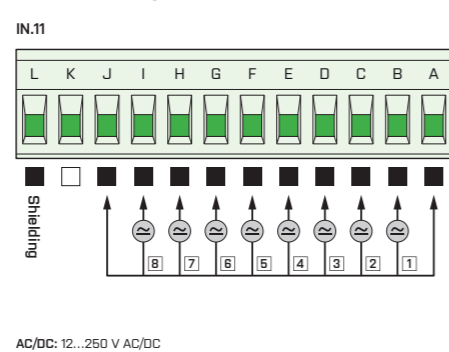
IN.9 3x PM input U-I



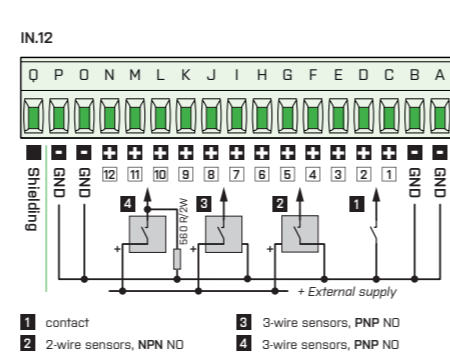
IN.10 2x AC/PWR input



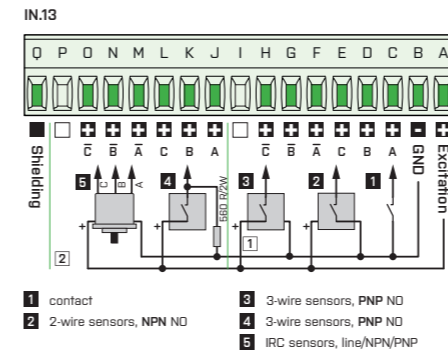
IN.11 8x Digital input



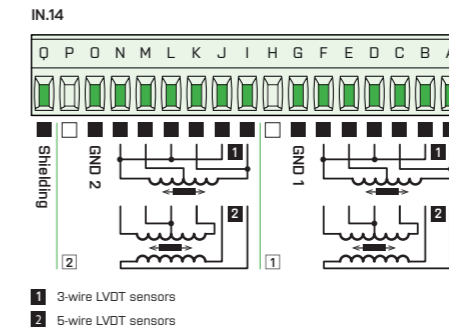
IN.12 12x Pulse input



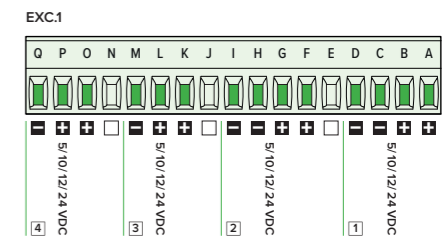
IN.13 2x Fast pulse input



IN.14 2x input for LVDT sensors

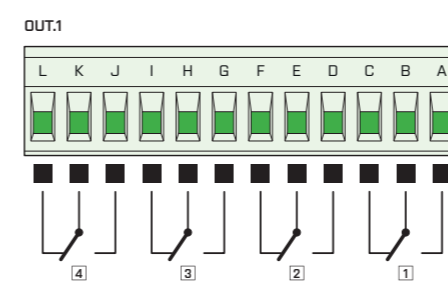


EXC.1 4x Excitation

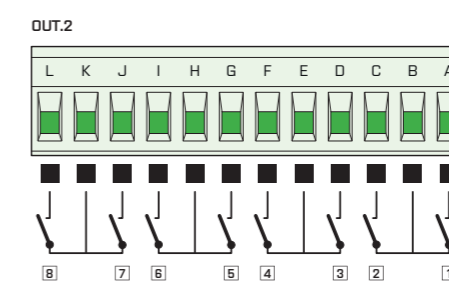


CONNECTION – OUTPUT

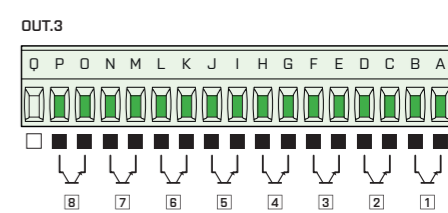
OUT.1 4x Relay, switch-over contact



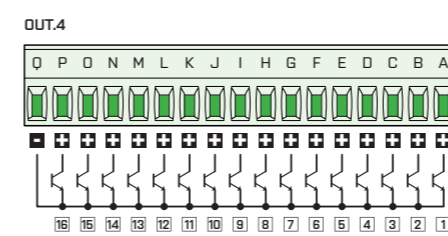
OUT.2 8x Relay, switch-on contact



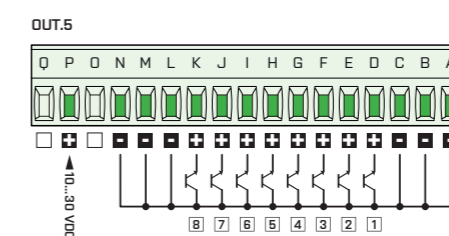
OUT.3 8x OC, NPN



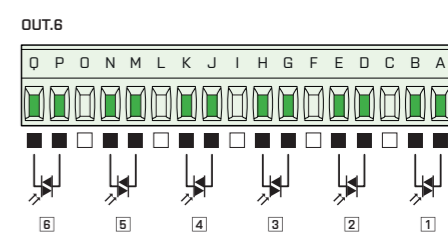
OUT.4 16x OC, NPN



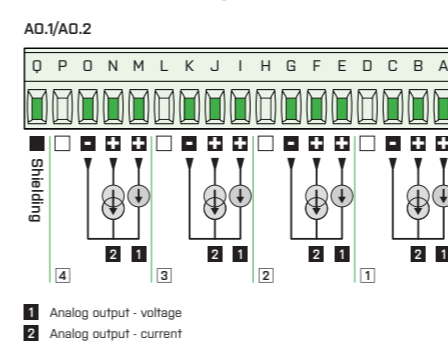
OUT.5 8x OC, PNP



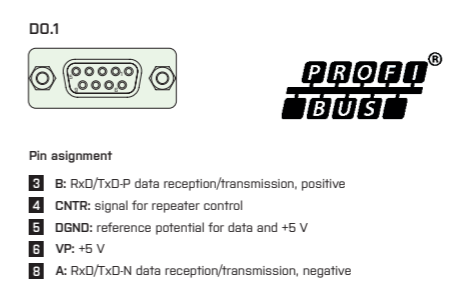
OUT.6 6x SSR



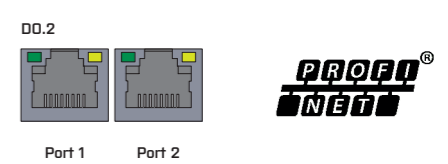
AO.1 2/4x Analogue output



DO.2 1x PROFIBUS



DO.2 1x PROFINET





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