DIGITAL DISPLAY

for Industry Applications

Series WAY-SSI

Key-Features:

- *WAY-SSI-S: only display*
- *WAY-SSI-A: display with analog output*
- *WAY-SSI-G: display with two presets and switching outputs*
- *WAY-SSI-R: display with serial RS232 and RS485 interface*
- *Master- or Slave operation with clock rates up to 1 MHz*
- *Suitable for all SSI formats from 8 to 32 Bit*
- *Numerous supplementary functions like linearisation, Bit blanking etc.*
- *Big LED display 6 digits (15 mm) with adjustable brightness*

Content:

17.12.14

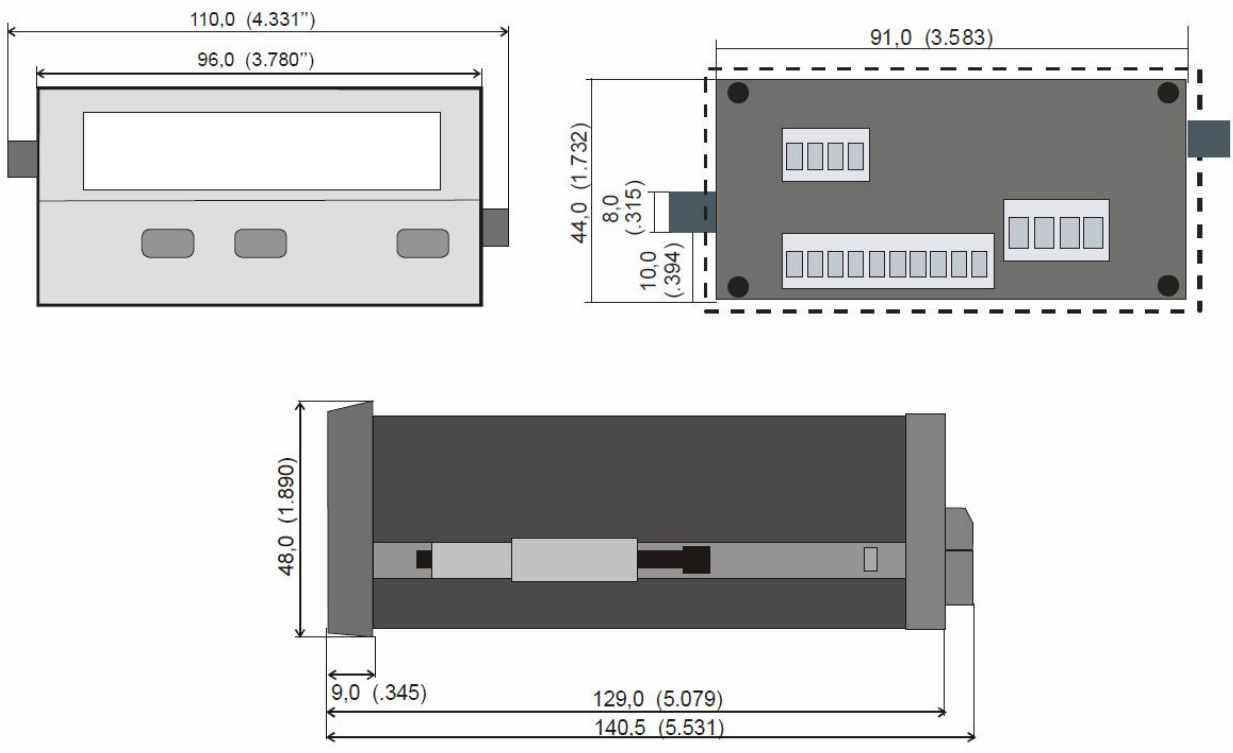
WayCon Positionsmesstechnik

TECHNICAL DATA WAY-SSI

Display	6 digits, 15 mm LEDs, high efficiency orange
Panel cut out	91 mm x 44 mm
Control inputs	3 inputs, A, B, C (PNP/NPN/Namur)
Input currents	5.1 mA / 24 V (R_i=4.7 Ω)
Input level HTL	Low: 0...2 V, High: 9...4.7 kΩ
SSI input frequency range	100 Hz...1 MHz
Min. pulse duration for Reset	5 ms
Analog output (only WAY-SSI-A)	0...20 mA, 4...20 mA (Last max. 300 Ohm), 0...±10 V (max. 2 mA)
Resolution	14 Bit + sign
Accuracy	0.1%
Serial interface (only WAY-SSI-R)	RS232 / RS485 : 600 - 38400 Baud
Switching output (only WAY-SSI-G)	PNP, max. 35 V, max. 150 mA
Supply voltage AC	115 / 230 V (±12.5 %)
Supply voltage DC	24 VDC (17 - 30 V)
AC Power	7.5 A
Consumption (without sensor)	120 – 190 mA
Aux. output for sensor	24 VDC, ±15%, 120 mA (with AC- and DC supply)
Protection class	Front IP65, Rear IP20
Working temperature	0...+45°C
Housing material	Norly UL94-V-0
Electrical connection	connecting terminal, signal line max 1.5 mm², AC-supply line max. 2.5 mm²
Conformity and Standards	CE compliant, EMC2004/108/EC: EN61000-6-2 and EN61000-6-3, LV2006/95/EC: EN61010-1
Scope of delivery	display, mounting parts, sealing, manual

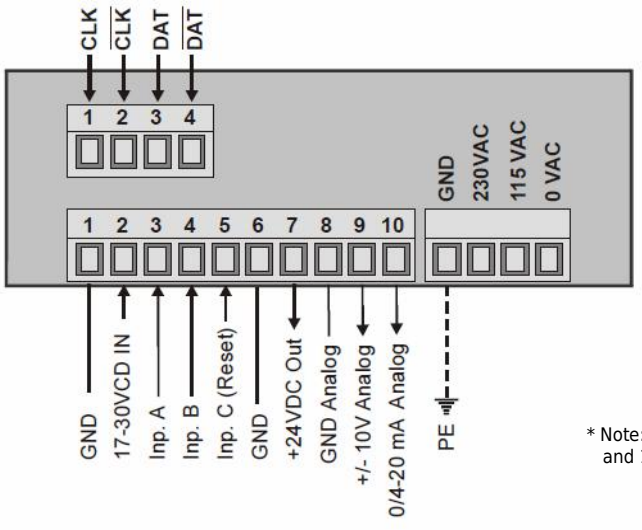
TECHNICAL DRAWING

WAY-SSI



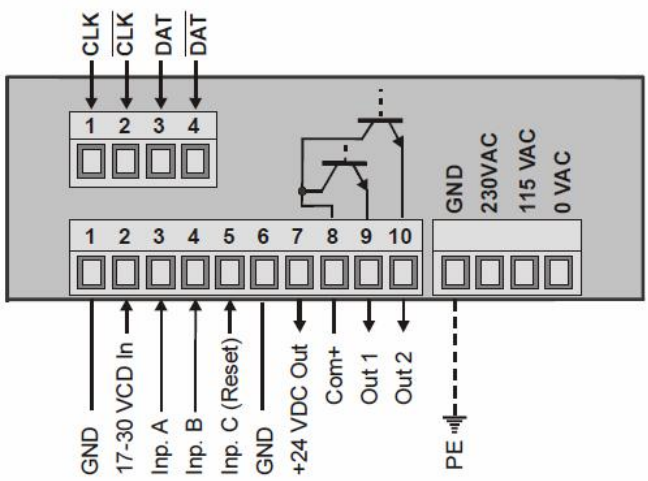
ELECTRICAL CONNECTION WAY-SSI

WAY-SSI-A
WAY-SSI-S *

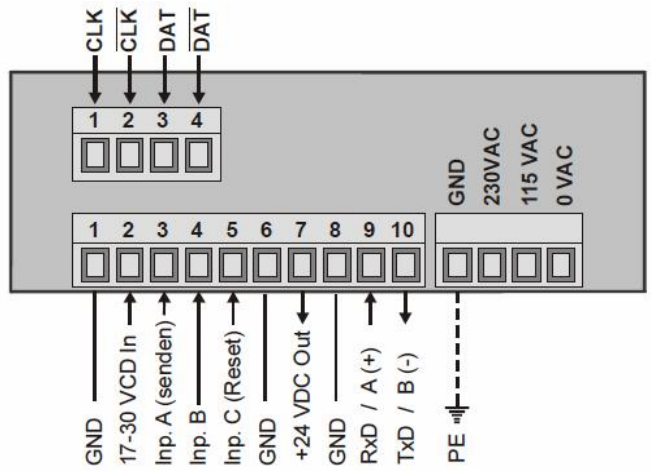


* Note: at display WAY-SSI-S terminals 8, 9 and 10 are not connected.

WAY-SSI-G



WAY-SSI-R



DESCRIPTION

Power supply

The unit accepts DC supply from 17 V to 30 V when using terminals 1 and 2. The consumption depends on the level of the supply voltage (typical 130 mA at 30 V or 190 mA at 17 V, plus current taken from aux. output).
For AC supply the terminals 0 VAC, 115 VAC or 230 VAC can be used. The total AC power is 7.5 VA.
The diagrams below show a dotted line for grounding to PE.
This connection is not really necessary, neither for safety nor for EMC. However, for some applications, it may be desirable to ground the common potential of all signal lines.

When using the earthing option, please pay attention:

- All terminals and potentials marked “GND“ will be earthed.
- Please avoid multiple earthing, i.e. when you use a DC power supply where the Minus is already connected to earth etc.

Aux. voltage output for sensor supply

Terminal 7 provides an auxiliary output of 24 VDC / 120 mA max. for supply of sensors and encoders.

Control Inputs A,B and C (only WAY-SSI-R)

Input A is used to activate a serial transmission (rising edge). Input B is not in use.
Input C operates as a Set / Reset input (static function, active).
In the basic Set-up menu, the inputs can be configured to PNP (signal must switch to +) or to NPN (signal must switch to +). This configuration is valid for all three inputs at a time.
The factory setting is always PNP.

Where NPN setting is used, please note:

Open NPN inputs will always represent a logical HIGH state. Consequently, Input C has to be connected to GND externally to allow normal operation. If unconnected, the unit would be kept in a continuous Reset state. With models WAY-SSI-R, also Input A must be tied to GND, and opening this connection will generate a rising edge to start a serial transmission

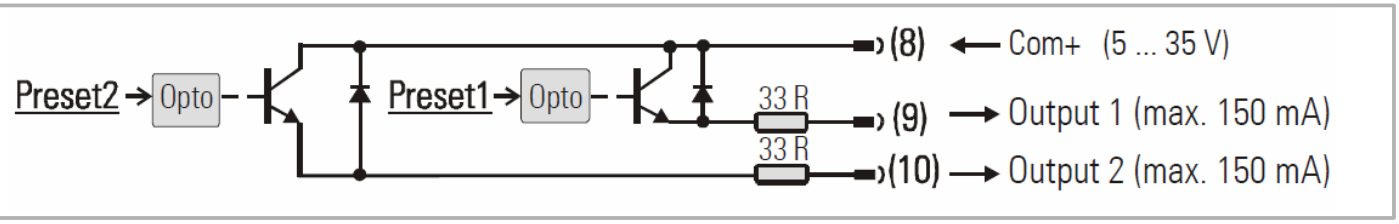
Where your use 2-wire NAMUR type sensors, please select NPN, connect the negative wire of the sensor to GND and the positive wire to the corresponding input.

Adjustable analog output (only WAY-SSI-A)

A voltage output is available, operating in a range of 0 ... +10 V or –10 V ... +10 V according to setting. At the same time, a current output 0/4 – 20 mA is available. Both outputs refer to the GND potential and the polarity changes with the sign in the display. The outputs are proportional to the display value and provide a 14 bits resolution.
The maximum current on the voltage output is 2 mA, and the load on the current output can vary between 0 and max. 300 Ohms. The response time of the analog output to changes of the encoder position is approx. 7 msec.

Optocoupler (transistor) outputs (only WAY-SSI-G)

The outputs provide programmable switching characteristics and are potential-free. Please connect terminal 8 (COM+) to the positive potential of the voltage you like to switch (range 5 V....35 V). You must not exceed the maximum output current of 150 mA. Where you switch inductive loads, please provide filtering of the coil by means of an external diode.
The optocoupler outputs provide a response time of approx. 5 msec with resistive load.

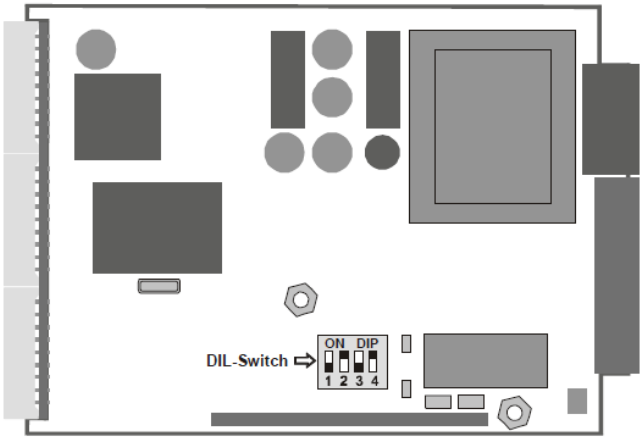


DESCRIPTION

Serial RS232 / RS485 Interface (only WAY-SSI-R)

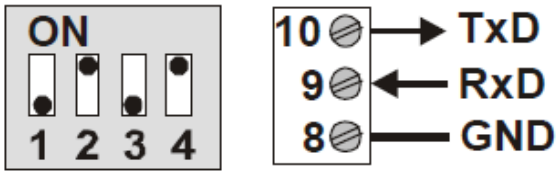
Ex factory the unit is set to RS232 communication. This setting can be changed to RS485 (2-wire) by means of an internal DIL switch. To access the DIL switch, you must remove the screw terminal connectors and the backplane. Then pull the board to the rear to remove the PCB from the housing.

Removal of the back plane

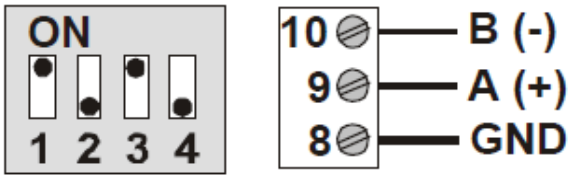


Location of the DIL switch

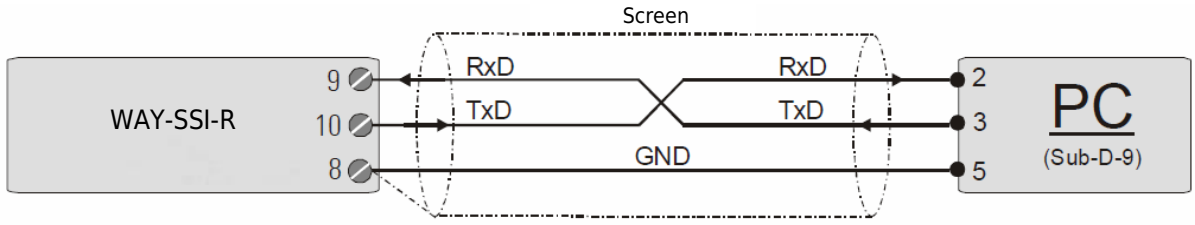
RS 232:



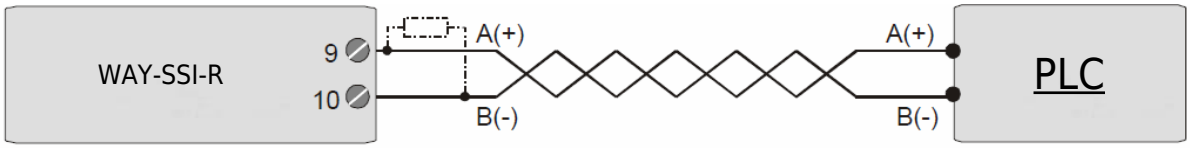
RS 485:



- Never set DIL switch positions 1 and 2 or DIL switch positions 3 and 4 to “ON” at the same time!
- After setting the switch, shift the print carefully back to the housing and avoid damage of the front pins for connection to the front keypad plate.



Connection of the RS232 interface



Connection of the RS485 interface

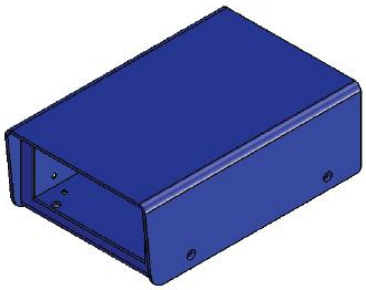
HOUSING

Aluminium housing GEH0IP65

- black powder coating
- internal grounding terminal.
- protection class: IP65
- dimensions: (W x H x D) 168 mm x 83 mm x 220 mm
- delivery: housing, mounting material
- without cable passages (must be drilled individually)

Table housing TG9648

- The housing is suited for all displays with front dimensions 96 x 48 mm
- self assembly
- dimensions: (W x H x D) 114 mm x 62 mm x 176 mm
- delivery: housing, mounting material



ORDER CODE

WAY-SSI-S	Display only
WAY-SSI-A	Display with analog output
WAY-SSI-G	Display with 2 presets and switching output
WAY-SSI-R	Display with serial interface RS232 / RS485

ACCESSORIES

Housing	
TG9648	table housing
GEH0IP65	Aluminium housing, IP65

Other	
Einstellung	Pre-adjustment according to customer specifications

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