

HYDAC INTERNATIONAL



Digital Display Unit HDA 5500

Description:

The digital display units in the HDA 5500 series are microprocessor-controlled display and monitoring units designed for control panel installation. Different versions are available with a maximum of three analogue inputs, an analogue output (adjustable 4 ... 20 mA or 0 ... 10 V) and up to four relay outputs.

The analogue input signals are displayed according to the settings selected by the user. Each of the relay output can be assigned to one of the inputs or to the difference between input 1 and 2. A Pt100 temperature probe can be connected directly. In addition, an optional frequency measurement is possible, e.g. by using the HDS 1000 (HYDAC rpm probe) for the measurement of the rpm speed of rotary components.

Depending on the model, it is also possible to connect SMART sensors (Condition Monitoring sensors). SMART sensors are a generation of sensors from HYDAC which can provide a variety of different measured variables.

Special features:

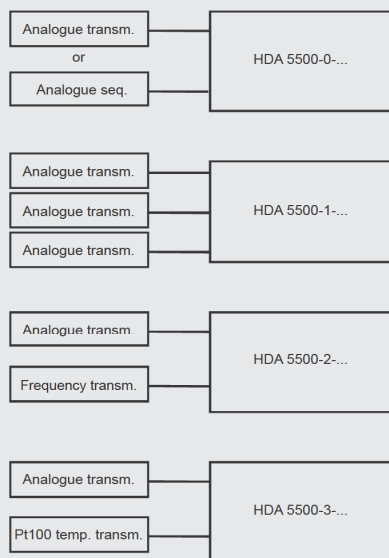
- Digital display of analogue signals
- Clear 4-digit, 7-segment LED display
- Up to 3 analogue inputs (4 ... 20 mA, 0 ... 10 V or 0 ... 5 V)
- Accuracy $\leq \pm 0.5 \%$
- Differential measurement possible
- Analogue output (4 ... 20 mA or 0 ... 10 V)
- Up to 4 relay switching outputs
- Supply voltage 12 ... 32 V DC or 85 ... 265 V AC 50 / 60 Hz
- Optionally with Pt100 sensor input or frequency input

Technical data:

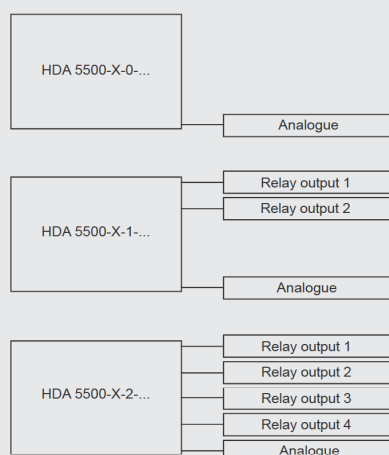
Display range	
Display	4-digit 7-segment LED display field, red, height of digits 14.2 mm 3 LEDs for active sensor, 4 LEDs for active switching output
Display range	-999 ... 9999 (user-adjustable)
Display units with backlight	bar, kg/cm ² , MPa, psi, °C, °F, mA, V, Hz, kN, m, mm, inch, l, l/min, gal, gal/min, rpm, %, t
Input data	
Analogue signal input(s)	
Measuring range(s) (up to 3 analogue inputs)	Selectable: 4 ... 20 mA, 0 ... 10 V, 0 ... 5 V or 4 ... 20 mA sequential (Modification 006)
Accuracy	$\leq \pm 0.5 \%$ at 25 °C
Pt100 input	
Measuring range	-25 ... +100 °C
Accuracy	$\leq \pm 0.5 \%$ at 25 °C
Frequency/counter input	
Signal threshold	0 ... 0.6 V = LOW, 3 ... 24 V = HIGH
Frequency range	15 Hz to 4 kHz
Output data	
Analogue output, permitted load resistance	4 ... 20 mA load resist. $\leq 400 \Omega$ or 0 ... 10 V load resist. $\geq 2 k\Omega$
Accuracy	$\leq \pm 0.5 \%$ at 25 °C
Rise time	70 ms
Switching outputs	
Type	2 or 4 relays each with separate common supply
Switching voltage	0.1 ... 250 V AC, 12 ... 32 V DC
Switching current	10 mA ... 2 A
Switching capacity	500 VA, 64 W
Life expectancy of switch contacts	≥ 20 million at minimum load $\geq 400,000$ at maximum load (typical)
Reaction time	Approx. 20 ms (with switching delay = 0 ms)
Setting range of switch points	1.5 ... 100 % of the pre-set display range
Setting range of the switching hystereses (switch-back points)	0.5 ... 99 % of the pre-set display range
Environmental conditions	
Nominal temperature range	0 ... +50 °C
Operating temperature range	0 ... +50 °C
Storage temperature range	-40 ... +80 °C
CE mark	FN 61000-6-1 / 2 / 3 / 4
Other data	
Housing	Control panel housing 96 x 48 x 109 mm; control panel cut-out 92 (+0.8) x 45 (+0.6) mm; front panel thickness 1.25 ... 15 mm; maximum installation depth 121 mm
Supply voltage	12 ... 32 V DC or 85 ... 265 V AC 50 / 60 Hz
Power consumption	15 VA at 85 ... 230 V AC – fuse protection 1 AT
Supply for measurement transmitters	12 V DC $\pm 1 \%$; max. 20 mA / analogue input
Residual ripple of supply voltage	$\leq 5 \%$
Weight	approx. 320 g

Note: Reverse polarity protection of the supply voltage, overvoltage, override and short circuit protection are provided.

Input models:



Output models:



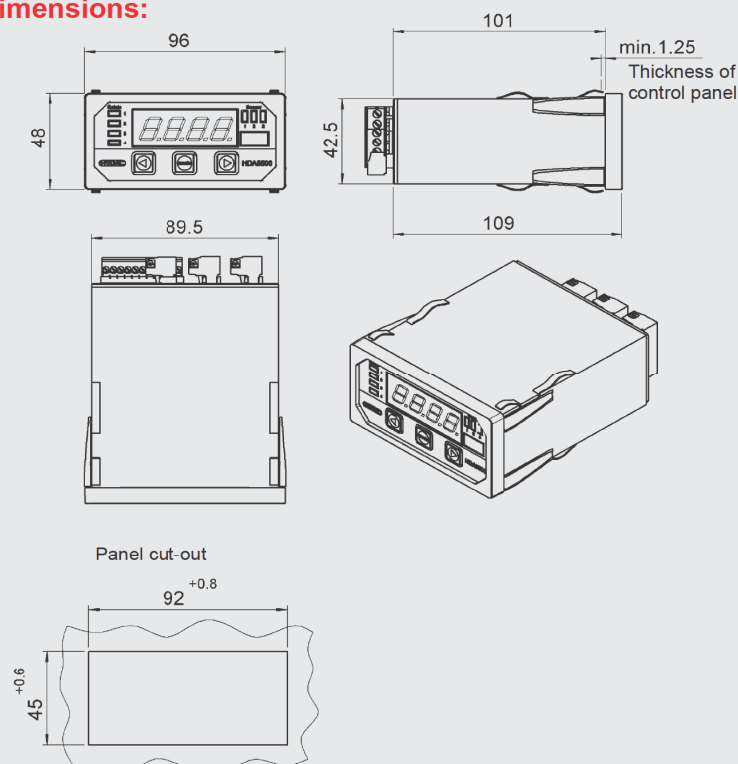
Connection terminals:

Supply voltage:
Plug-in terminal block 2 pole, RM 5.08
(cross section max. 2.5 mm²)

Inputs/outputs:
Plug-in terminal block 11 pole, RM 3.5
(cross section max. 1.5 mm²)

Relay switching outputs:
Plug-in terminal block 5 pole, RM 5.08
(cross section max. 2.5 mm²)

Dimensions:



Model code:

HDA 5 5 0 0 - X - X - XX - 00X

Inputs

- 0 = one analogue input
- 1 = three analogue inputs
- 2 = one analogue input + frequency input/counter function
- 3 = one analogue + Pt100 input

Outputs

- 0 = 1 analogue output
- 1 = 1 analogue output + 2 relay switching outputs
- 2 = 1 analogue output + 4 relay switching outputs

Supply voltage

- AC = 85 .. 265 V AC
- DC = 12 .. 32 V DC

Modification

- 000 = standard
- 006 = version with sequential analogue output for HLB 1400 and CS 1000 (only with input model "0" and output model "2")

Note:

The information in this brochure relates to the operating conditions and applications described. For applications or operating conditions not described, please contact the relevant technical department.

Subject to technical modifications.