DAD-141.1 weight indicator

product description

The DAD 141.1 is a powerful and economical state-of-the-art electronic device for any weighing and filling operation.

The basic device provides already all communication interfaces that are needed for industrial weighing, control and registration, i.e. analogue current or voltage output, Ethernet, RS422/485 and digital I/O for direct control of valves or bars etc. The application setup including calibration can be stored non-volatile in the EEPROM. The setup can easily be restored in the DAD 141.1. The digital amplifier is a stand-alone device for 35 mm DIN rail mounting.

applications

Universal process weighing systems and process automation & control applications.

accessories

Graphical setup and analysis software running under MS Windows

Setup and analysis software for smartphones (Android OS)

key features

OIML approved for 10,000 intervals

Linearity better than 0.001 %

Load cell excitation 5 VDC for up to 6 load cells a 350 Ω

6-wire technology

Calibration with weight or in mV/V

Max of 600 measurements/sec

Digital filters, programmable

Serial interface RS422/RS485

Ethernet / Modbus TCP/IP (isolated)

Analogue current output, isolated

Analogue bipolar voltage output, isolated

2 inputs & 3 outputs; digital (isolated)

DIN-rail mounting TS35

specifications

Type	DAD 141.1
Accuracy class	III
Test certificate according OIML R76	EU Type approved for 10,000 intervals
AD converter	Delta-Sigma, ± 24 bit
Analogue input range	±15mV bipolar (± 3mV/V @ 5VDC excitation)
Minimum input sensitivity	0.25 µV/e (legal for trade); 0.05 µV/d (non legal for trade)
Linearity	< 0.001 % FS
Temperature effect on zero	< ±4 ppm/°K (typical < ±2 ppm/°K)
Temperature effect on span	< ±8 ppm/°K (typical < ±4 ppm/°K)
Excitation	5 VDC, > 50 Ohms (up to 6 load cells at 350 Ohms or 18 load cells at 1,100 Ohms, parallel connected); 6-wire technology
Conversion rate	max. 600 values/second, selectable in 8 steps
Resolution external	±600 000 counts @ ±3 mV/V input signal

Calibration & Weighing Functions

| Calibration	Electronical calibration in mV/V (eCal) or with test weight(s)
Digital low pass filter	FIR Filter 2.5...19.7Hz or IIR Filter 0.25...18Hz – adjustable in 8 steps
Weighing functions	Zero, gros, tare, net, filter, etc.
Application modes	None automatic weighing instrument (NAWI) or triggered measurements (Checkweigher)

Communication & Setup

Communication ports	RS 422/485 and Ethernet TCP/IP
Setup & Calibration	Via panel buttons or Windows software "DOP 4" or smartphone app "AnDop"
Display	6 digit 7 segments, green LED's, 5.08mm, 8 status LED green, spectral filter 565nm for improved contrast
Keyboard	4 pcs, Ø 3mm robust, for setup / calibration, zero, tare

Power Supply

DC power supply	10 ... 30 VDC, < 4W
Environmental conditions	
Operating temperature	−15 °C to +55 °C at maximal 85% rh, non condensing

Storage temperature	–30°C to +70°C
Enclosure & protection	Plastic housing, for DIN rail mount, protection IP40
Dimensions and weight	120 x 105 x 22.5mm (H, L, W), weight approx. 170g
EMC performance	EN61326 according to MID E2 for industrial applications (in full accordance with 2004/22/EC)
Vibration resistance	2.5g @ operation, 5g @ storage

RS422/RS485 Interface

Serial port	RS 422/485, 9,600 … 115200 baud (8N1), half/full duplex
Protocol	ASCII
Address range	1 … 31

Ethernet InterFace

Ethernet / Modbus	RJ45, 10/100 Mbit/s, isolated
Protocol	Ethernet TCP/IP (port 23) or Modbus TCP/IP (port 502)
IP Address	Manual setup via serial port or panel buttons – factory default 192.168.0.100

Analog-Output

Analog current output	0 – 20mA or 4 – 20mA, 500 ohm, isolated, or
Analog voltage output	0 … 10V, 0 … 5V, -5 … +5V, -10 … +10V, 10 kΩ, isolated

Digital In-/Outputs

Digital inputs	2 inputs (10 – 30V, < 3mA), common ground, opto-isolated
Digital outputs	3 outputs (semiconductor relais) 30V AC/DC, 0.5A, common ground, opto-isolated
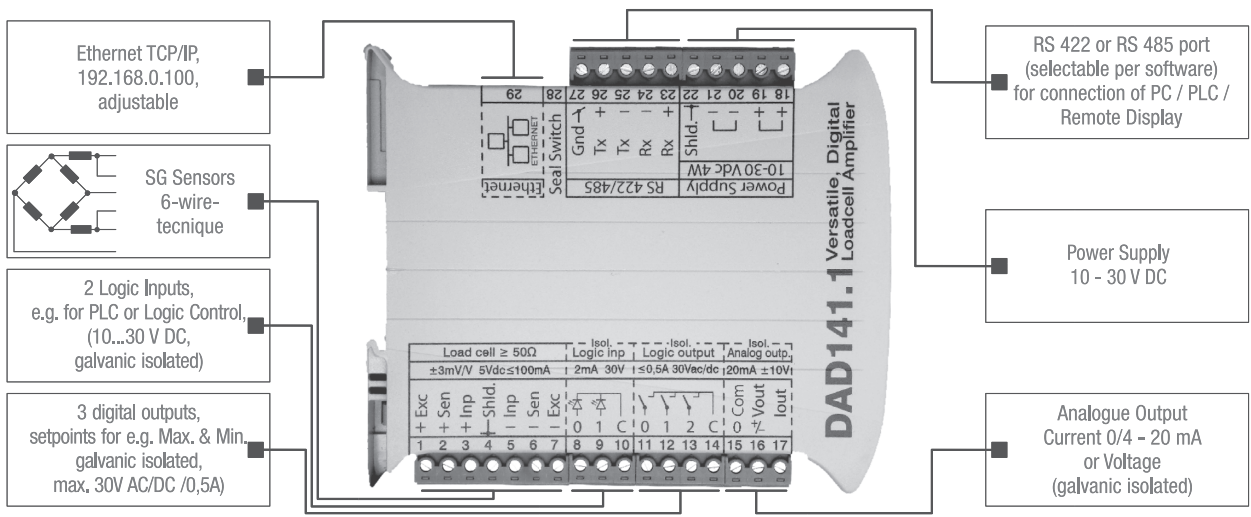
Dimensions and specifications are subject to change without notice.