

# 1/8 DIN Load Cell Panel Meter

**Ω OMEGA™**

## Economical Panel Meter for Load Cell Applications

DPS20



DPS20 shown smaller than actual size.

OMEGA's new panel meter for load cells delivers high-performance at 1/8 DIN size for panel mounts and integration in a wide range of weight applications. The DPS20 accepts 4 and 6 wire load cells and provides 5Vdc and 10Vdc configurable excitation voltage to power the load cell. Two power supply options for high and low AC/DC power, allows this unit to be suited for global use.

The optional relays, analog output, and Modbus® RTU serial communications provide control and communication capability. Additional features of the DPS20 load cell meter include independent scaling of the load cell signal and reading units, prevention of false tares, stability alarms, and rear terminal with configurable function.

- ✓ **Fast Access Menu - Front Key Access to Modify the Alarm Setpoints and Read Values for Tare, Gross Weight, mV Signal, Excitation Voltage and Excitation Current**
- ✓ **Tare Functions - Configurable Tare Function Accessible from Front Key, Rear Terminal and Auto-Tare Function.**
- ✓ **Alarms 1, 2 or 3, Independent, Configurable as Max/Min, with Setpoint, Hysteresis, Activation and Deactivation Delays, Activation on Stability, Dual Setpoints and Latched Alarms.**

### APPLICATIONS

- ✓ **Assembly Line**
- ✓ **Control Panel**
- ✓ **Laboratory**

- ✓ **Load Cell Characterization Based on Sensibility, Nominal Load and Excitation Voltage Values.**
- ✓ **Independent Scaling - Easily Rescale Reading Units Without Affecting the Load Cell Characterization.**
- ✓ **Define a Maximum Tare Value to Prevent Undesired Tares**
- ✓ **Output and Control Options: 1, 2 or 3 Relay Outputs, analog 4 to mA or 0 to 10 Vdc Isolated Output, Modbus RTU Isolated Serial Output.**
- ✓ **Recursive Display Filter and Configurable Steps for Minimum Predefined Changes on the Reading.**
- ✓ **5 Levels of Brightness**
- ✓ **Password Protection**

## Specifications

**Digits:** 6

**Reading:** 999999/-199999

**Decimal Point:** Configurable

**LED color:** Red

**Digit Height:** 14 mm (0.55")

**Types of Load Cell:** 1 mV/V, 2 mV/V, 3 mV/V and others

**Excitation Voltage:** 5Vdc or 10Vdc (configurable)

**Maximum Exc. Current:** 140mA

**Maximum Vdc at Input:** ±30Vdc

**Number of Wires:** 4 and 6 wire cells

**Number of Cells** (for standard 350Ohms cells): 1 to 8 load cells (at 5Vdc) and 1 to 4 load cells (at 10Vdc)

**Internal Signal Ranges:** 100mV, 30mV, 20mV, 15mV, 10mV, 5mV

**Accuracy at 25°C:** 0.05%FS

**Thermal Stability:** 50ppm/°C

**Input Impedance:** 20 MOhm

**Acquisitions per Second** (and alarms update): 16, 50 or 60 acq./sec. (configurable)

**Display Refresh** (and bus and analog output update): 16, 50 or 60 acq./seg. (configurable)

**Step Response** (0% to 99% of signal): 17, 20 or 63 mSec. (configurable)

**Signal Terminals:** plug-in screw terminals (3.81 mm pitch)

**Output and Control Options:** relays, analog outputs, Modbus RTU.

**Configuration:** by front keypad

**External Contact:** with configurable functions

**Power 'HV':** 85 to 265 Vac/dc (isolated 2500 Veff)

**Power 'LV':** 11 to 60 Vdc and 24/48 Vac (isolated 1500 Veff)

**Consumption:** <1.5W (meter only) and <4.0W (meter with output options)

**Power terminals:** plug-in screw terminals (5.08mm pitch)

**Power wires:** max. 2.5mm<sup>2</sup> (max. AWG14)

## Output and Control Options:

1, 2 or 3 relays

1, 2 or 3 isolated analog outputs 4/20 mA or 0/10 Vdc

Modbus RTU isolated serial output

**Front Protection:** NEMA 4 (IP65)

**Connections:** plug-in screw terminals

**Weight:** <150 gr (5.3 oz)

**Mounting:** panel

**Front Size:** 96x48 mm (1/8 DIN)

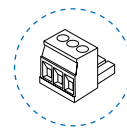
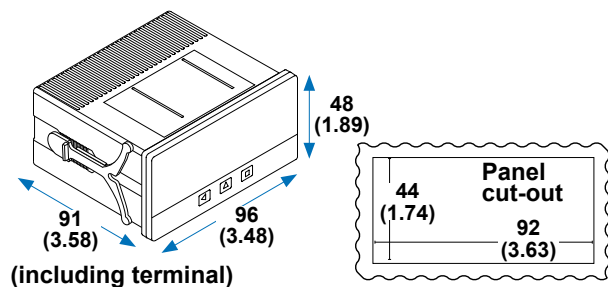
**Panel Cut-Out:** 92x44 mm

**Depth:** 91 mm (including terminals)

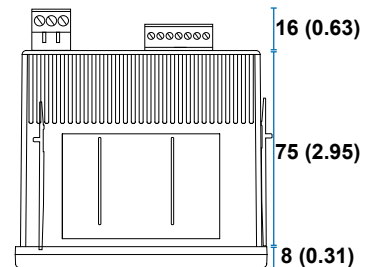
**Operation Temperature:** 0 to 50°C (32 to 122 °F)

**Storage Temperature:** -20 to 70°C (-4 to 158 °F)

**Packing box:** paperboard, 15x12x5cm



Detail of the plug-in screw terminal. Both male and female terminals are included.



## To Order

Model No.	Description
DPS20-HV	1/8 DIN panel meter with 85/265Vac/dc power supply
DPS20-HV-AO	1/8 DIN panel meter with 85/265Vac/dc power supply with 1 analog output
DPS20-HV-R1	1/8 DIN panel meter with 85/265Vac/dc power supply with 1 relay output
DPS20-HV-R1-AO	1/8 DIN panel meter with 85/265Vac/dc power supply with 1 relay output and 1 analog output
DPS20-HV-R1-R1	1/8 DIN panel meter with 85/265Vac/dc power supply with 2 relay output
DPS20-HV-R1-R1-AO	1/8 DIN panel meter with 85/265Vac/dc power supply with 2 relay output and 1 analog output
DPS20-HV-R1-R1-R1	1/8 DIN panel meter with 85/265Vac/dc power supply with 3 relay output
DPS20-HV-RTU	1/8 DIN panel meter with 85/265Vac/dc power supply with 1 Modbus RTU output
DPS20-HV-R1-R1-RTU	1/8 DIN panel meter with 85/265Vac/dc power supply with 2 relay output and 1 Modbus RTU output
DPS20-LV	1/8 DIN panel meter with 11/60Vdc and 24/48Vac power supply
DPS20-LV-AO	1/8 DIN panel meter with 11/60Vdc and 24/48Vac power supply with 1 analog output
DPS20-LV-R1	1/8 DIN panel meter with 11/60Vdc and 24/48Vac power supply with 1 relay output
DPS20-LV-R1-AO	1/8 DIN panel meter with 11/60Vdc and 24/48Vac power supply with 1 relay output and 1 analog output
DPS20-LV-R1-R1	1/8 DIN panel meter with 11/60Vdc and 24/48Vac power supply with 2 relay output
DPS20-LV-R1-R1-AO	1/8 DIN panel meter with 11/60Vdc and 24/48Vac power supply with 2 relay output and 1 analog output
DPS20-LV-R1-R1-R1	1/8 DIN panel meter with 11/60Vdc and 24/48Vac power supply with 3 relay output
DPS20-LV-RTU	1/8 DIN panel meter with 11/60Vdc and 24/48Vac power supply with 1 Modbus RTU output
DPS20-LV-R1-R1-RTU	1/8 DIN panel meter with 11/60Vdc and 24/48Vac power supply with 2 relay output and 1 Modbus RTU output

Comes complete with operator's manual. The AC powered units can not be shipped to Canada.

## Options

### Relay output

**Module:** R1

**Type of relay:** 3 contacts (Com, NO, NC)

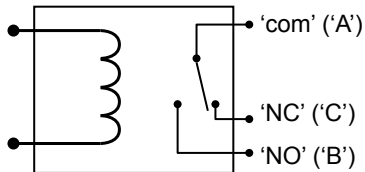
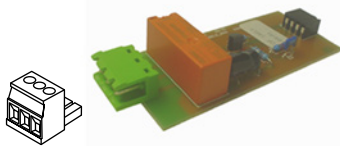
**Max. current:** 8A (resistive load)

**Max. voltage:** 250 Vac continuous

**Isolation:** 3500 Veff

**Terminal:** plug-in screw terminal, pitch 5.08 mm

**Installation allowed at:** Opt.1, Opt.2 and Opt.3



### Analog output

**Module:** AO

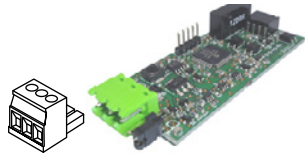
**Output signal:** 4/20mA, 0/10Vdc (mA active and passive)

**Accuracy:** 0.1% FS

**Isolation:** 1000 Vdc

**Terminal:** plug-in screw terminal, pitch 5.08 mm

**Installation allowed at:** Opt.1, Opt.2 and Opt.3



### Modbus RTU output

**Module:** RTU

**Type of bus:** RS-485, up to 57.6 Kbps

**Accuracy:** 0.1% FS

**Isolation:** 1000 Vdc

**Terminal:** plug-in screw terminal, pitch 5.08 mm

**Installation allowed at:** Opt.1, Opt.2 and Opt.3

