

1/8 DIN Economical Digital Indicators For Process and Electrical Measurements

Panel Punches Available, Visit omega.com/panelpunches



Shown smaller than actual size.

Pressure transmitters sold separately. PX305 Series shown, \$310. Visit omega.com/px305 for details.

Thermocouple probes sold separately. TTSS-18G-12 shown, \$19, see page A-78.

Available with thermocouple, RTD, process, AC and DC voltage/current, load cell, and ohmmeter inputs.

DP18 Series Starts at **\$189**



- ✓ **Modular Design**
- ✓ **Options for Alarms, Analog Output or Communications**
- ✓ **3½-Digit LED**
- ✓ **Available in Red or Green Displays**
- ✓ **Removable Screw-Clamp Cable Connector**

The DP18 Series offers a modular design for easy selection and installation of options and inputs. Field-installable signal conditioner cards provide the large user or OEM the ability to stock options and spare signal conditioner cards for

converting input types, meter functions or repair. For customers who need flexibility and wish to add options to the meter as requirements become more demanding, the DP18's field-installable analog outputs, relays and communications offer an economical solution. The DP18 series is a complete family of panel meters with input cards for voltage, process and temperature measurement and control. The voltage signal conditioners will measure AC or DC voltages or true RMS. Signal conditioners for process inputs accept low-level voltage or current which can be scaled for engineering units. Temperature meters will provide accurate measurement of thermocouples or RTD's. Other inputs include differential process, load cells or potentiometers. Combined with OMEGAs wide selection of transducers, the DP18 Series is the single solution for process measurement.

General Specifications

- Display:** 3½-digit, 14.2 mm (0.56") red LED
- Signal Input:** Single-ended
- Conversion:** A/D dual slope
- Integration Period:** 80 ms
- NMRR:** 50 db
- Read Rate:** 3/s
- Warm-up:** 5 minutes
- Operating Temperature:** 0 to 50°C (32 to 122°F)
- Storage Temperature:** -40 to 80°C (-40 to 176°F)
- Span Temperature Coefficient:** 100 ppm
- Zero Temperature Coefficient:** 2.5 µV/°C
- Power Consumption:** 5.5 Va for AC powered models
3.5 W for DC powered models
- Setpoints:** Optional single or dual setpoints for use in on/off control or as alarms; 1 SPDT relay rated 2 A @ 250 Vac provided per setpoint with adjustable deadband
- Connections:** Push-on connectors with screw terminals
- Case Material:** ABS, DIN 43700, black
- Panel Cutout:** 44.5 H x 92.5 mm W (1.75 x 3.64")
- Weight:** 300 g (10.6 oz)

To Order (Specify Model Number)					
Model No.	Price	Range	Resolution	Accuracy	
DP18-JC	\$189	-50 to 600°C	1°C	±0.5% rdg ±1 count	
DP18-KC	189	0 to 1250°C	1°C		
DP18-TC	189	-50 to 400°C	1°C		
DP18-EC	189	0 to 650°C	1°C	±0.2% rdg ±1 count	
DP18-SC	189	0 to 1750°C	1°C	±1.5% rdg ±1 count (0 to 260°C) ±0.5% rdg ±1 count (260 to 970°C) ±0.1% rdg ±1 count (970 to 1750°C)	
DP18-RC	189	250 to 1750 °C	1°C	±2% rdg ±1 count (250 to 500°C) ±0.5% rdg ±1 count (500 to 1000°C) ±0.2% rdg ±1 count (1000 to 1750°C)	

RTD (Pt100; Alpha = 0.00385; 2- or 3-wire) Inputs

Model No.	Price	Range	Resolution	Accuracy
DP18-M1C	\$178	-200 to 650°C	1°C	1°C ±1 count
DP18-M1F	178	-200 to 400°F	1°F	1°F ±1 count
DP18-M2	178	-150.0 to 199.9°C	0.1°C	0.4°C ±1 count

Process Signal Inputs

Model No.	Price	Range	Input Impedance	Excitation	Accuracy
DP18-P1	\$189	0 to 1V	1.1 MΩ	10 to 24 Vdc, 50 mA max	±0.15% rdg ±1 count
DP18-P2	189	0 to 5 V/1 to 5V	1.1 MΩ		
DP18-P3	189	0 to 1 mA	100 Ω		
DP18-P4	189	0 to 5 mA/1 to 5 mA	100 Ω		
DP18-P5	189	0 to 20 mA/4 to 20 mA	24.9 Ω		
DP18-P6	189	0 to 50 mA/10 to 50 mA	10 Ω		
DP18-P7	189	0 to 20/0 to 200 Vdc	1 MΩ		

Potentiometer (Potentiometric Transducers)*

Model No.	Price	Input	Excitation	Accuracy	Signal Conditioner
DP18-P8	\$200	3-wire pot.	5 Vdc @50 mA max	±0.15% rdg ±1 count	BD18-90

Differential Process*

Model No.	Price	Range	Accuracy	Signal Conditioner
DP18-P9	\$190	0 to 20 mA	±0.15% rdg ±1 count	BD18-35

* All process input meters are fully scalable from -1999 to 1999 with selectable decimal point and zero and span adjustments.

Strain Gage/Load Cell

Model No.	Price	Load Cell Impedance	Input Impedance	Resolution	Sensitivity	Accuracy	Excitation
DP18-L1	\$220	350 Ω	20 MΩ	5 μV/ct	10 mV	0.15% rdg ±1 count	10 to 24 Vdc @ 50 mA max

Ohm meter

Model No.	Price	Range	Excitation Current	Resolution	Accuracy
DP18-Q1	\$230	0 to 199.9 Ω	10 mA	0.1 Ω	0.05% rdg ±1 count
DP18-Q2	230	0 to 1999 Ω	1 mA	1 Ω	
DP18-Q3	230	0 to 19.99 kΩ	0.1 mA	10 Ω	
DP18-Q4	230	0 to 199.9 kΩ	0.01 mA	100 Ω	

DC Voltage Inputs

 **MOST POPULAR MODELS HIGHLIGHTED!**

To Order (Specify Model Number)					
Model Number	Price	Range	Input Impedance	Resolution	Accuracy
DP18-DV1	\$178	199.9 mVdc	100 M Ω	0.1 mV	0.05% of reading ± 1 count
DP18-DV2	167	1.999 Vdc	1000 M Ω	1.0 mV	
DP18-DV3	167	19.99 Vdc	1 M Ω	10 mV	
DP18-DV4	167	199.9V	1 M Ω	100 mV	
DP18-DV5	167	600 Vdc	1 M Ω	1V	
DP18-DV6	178	0 to 2, 0 to 10, 0 to 100, 0 to 600 Vdc*	1 M Ω	± 1 counts	
DP18-DV7	189	<2 Vdc*	10 M Ω	± 2 counts	0.15% ± 1 count

* Fully scalable from -1999 to 1999, selectable decimal point, zero and span adjustments.

DC Current Inputs

Model Number	Price	Range	Input Impedance	Resolution	Accuracy
DP18-DC1	\$178	1.999 mA	150 Ω	1 μ A	0.05% rdg ± 1 count
DP18-DC2	178	19.99 mA	15 Ω	10 μ A	
DP18-DC3	178	199.9 mA	1.5 Ω	100 μ A	
DP18-DC4	178	1999 mA	0.15 Ω	1 mA	

DC Current Inputs for Use with External Shunt

Model Number	Price	Range (Amps DC)	Input Impedance	Resolution	Accuracy
DP18-DS	\$178	10/20/40/60/80 100/150/200 250/400/600/ 800 1000/1500/2000	20 M Ω	1 count	0.2% rdg ± 1 count

Note: Requires external shunt of 60, 100 or 150 mV; range is jumper selected. To order DC shunts, see chart on page M-64.

AC Voltage Inputs

Model Number	Price	Range	Input Impedance	Resolution	Accuracy
DP18-AV1	\$170	1.999V	10 k Ω	1 mV	0.2% rdg ± 1 count
DP18-AV2	170	19.99V	10 k Ω	10 mV	
DP18-AV3	170	199.9V	100 k Ω	100 mV	
DP18-AV4	170	500V	1 M Ω	1V	

AC Current Inputs

Model Number	Price	Range	Input Impedance	Resolution	Accuracy
DP18-AC1	\$170	1.999 mA	221 Ω	1 μ A	0.2% rdg ± 1 count
DP18-AC2	170	19.99 mA	22.1 Ω	10 μ A	
DP18-AC3	170	199.9 mA	2.21 Ω	100 μ A	
DP18-AC4	170	500 mA	0.187 Ω	1 mA	

AC Current Inputs For Use With External Current Transformer

Model Number	Price	Shunt	Range	Input Impedance	Resolution	Accuracy
DP18-AT1	\$175	X/1	5/10/15/25/40/50/ 60/100/150/250/400/ 500/600/1000/1500	0.05 Ω	1 count	0.2% rdg ± 1 count
DP18-AT2	175	X/5				

Note: Requires external transformer of X/5 or X/1; range is jumper selected. Visit omega.com for current transformers (CT's)

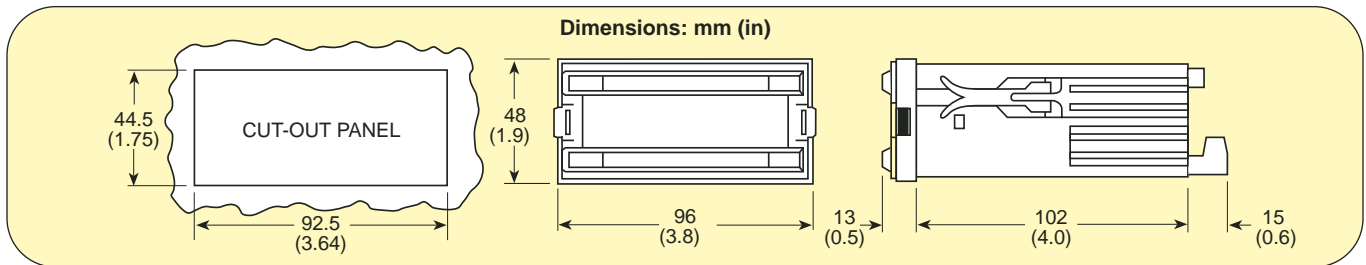
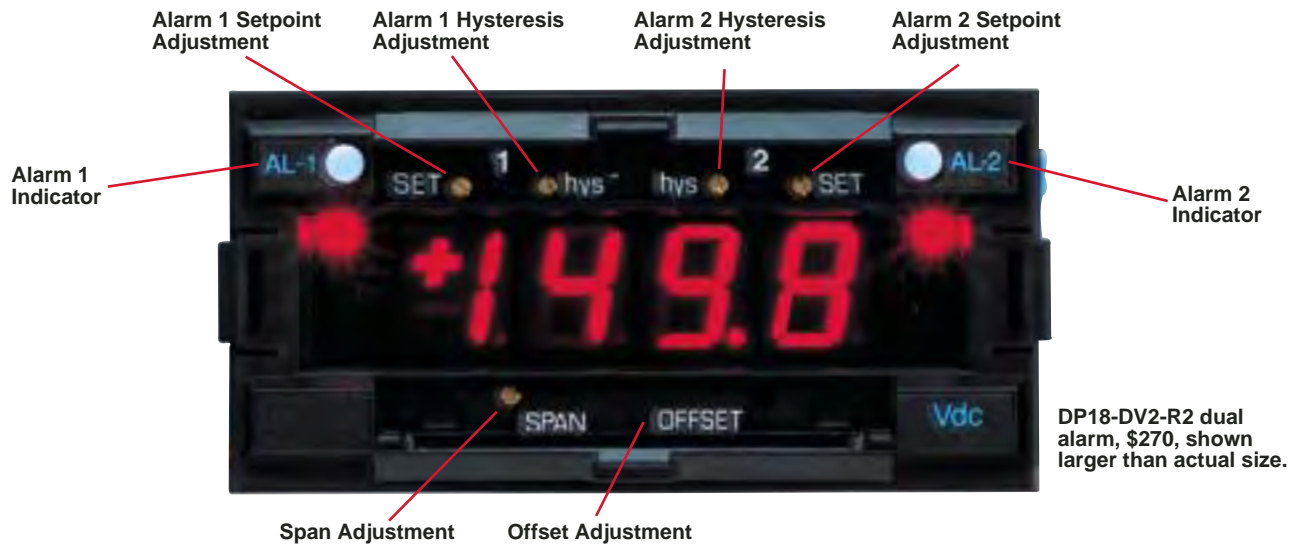
AC RMS Voltage Inputs

Model Number	Price	Range	Input Impedance	Resolution	Accuracy
DP18-RV1	\$230	1.999 mA	10 G Ω	1 mV	0.2% rdg ± 1 count
DP18-RV2	230	19.99 mA	3.3 M Ω	10 mV	
DP18-RV3	230	199.9 mA	3 M Ω	100 mV	
DP18-RV4	230	500 mA	3 M Ω	1 V	

AC RMS Current Inputs For Use With External Transformer

Model Number	Price	Shunt	Range	Input Impedance	Resolution	Accuracy
DP18-RT1	\$230	X/5	5/10/15/25/40/50/ 60/100/150/250/400/ 500/600/1000/1500	0.05 Ω	1 count	0.2% rdg ± 1 count

Note: Requires external transformer of X/5; range is jumper selected. Visit omega.com for current transformers (CT's)



Options for All Models

Power Options

Order Suffix	Add'l Price	Description
-220	N/C	220 Vac
-24	\$11	24 Vac
-48	11	48 Vac
-12VDC	67	12 Vdc isolated
-15/30VDC	67	15 to 30 Vdc isolated
-24/65VDC	78	24 to 65 Vdc isolated

Note: Standard power is 110 Vac.

Analog Output Options*

Order Suffix	Add'l Price	Description
-AO1	\$67	Milliamp sink, 0 to 20 mA max
-AO2	67	Milliamp source, 0 to 20 mA max
-AO3	67	Voltage, 0 to 10 Vdc max
-APH2	78	Analog peak hold

Control Output/Communications Options*

Order Suffix	Add'l Price	Description
-R1	\$112	Single setpoint
-R2	134	Dual setpoint
-APH1	98	Analog peak hold

* A maximum of 1 analog output option and 1 control output/communications option can be specified per meter.

Accessories

Model No.	Price	Description
DPP-5	\$525	1/8 DIN panel punch
EE-0401	150	Reference Book: Standard Handbook for Electrical Engineers

Display Options

Order Suffix	Add'l Price	Description
-GR	\$12	Green display
-DN	25	Display hold

0 to 100 mV Output Shunts for DC Current Input Meters

Model Number	Price	Input Range (Amps DC)
DCS100-10	\$45	10
DCS100-20	40	20
DCS100-40	40	40
DCS100-60	40	60
DCS100-80	40	80
DCS100-100	40	100
DCS100-150	40	150
DCS100-200	60	200
DCS100-250	60	250
DCS100-400	60	400
DCS100-600	60	600
DCS100-800	80	800
DCS100-1000	80	1000
DCS100-1500	80	1500
DCS100-2000	80	2000

Ordering Examples: DCS100-200, 0 to 100 mV output shunt with 200 Adc current input rating, \$60.

DCS100-100, 0 to 100 mV output shunt with 100 Adc current input rating, \$40.



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