

SPECIFICATIONS

Sensor heads

Item	Type Model No.(Note 3)	Compound pressure			Positive pressure		Vacuum pressure		
		DPH-101(-R)	DPH-101-M3(-R)	DPH-101-M5(-R)	DPH-102	DPH-102-M5	DPH-103(-R)	DPH-103-M3(-R)	DPH-103-M5(-R)
Type of pressure		Gauge pressure							
Rated pressure range		-100.0 to +100.0 kPa			0 to +1.000 MPa		0 to -101.0 kPa		
Pressure withstandability		500 kPa			1.5 MPa		500 kPa		
Applicable fluid		Air, non-corrosive gas							
Supply voltage		12 to 24 V DC \pm 10 % Ripple P-P 10 % or less							
Current consumption		15 mA or less							
Analog voltage output		Output voltage: 1 to 5 V (over rated pressure range) Zero point: within 1 V \pm 2.5 % F.S. (vacuum / positive pressure type) within 3 V \pm 3 % F.S. (compound pressure type) Span: within 4 V \pm 3.5 % F.S. Linearity: within \pm 0.5 % F.S. Output impedance: 1 k Ω approx.							
Environmental resistance	Protection	IP40 (IEC)							
	Ambient temperature	0 to +50 °C +32 to +122 °F (No dew condensation allowed), Storage: -10 to +60 °C +14 to +140 °F							
	Ambient humidity	35 to 85 % RH, Storage: 35 to 85 % RH							
	Voltage withstandability	1,000 V AC for one min. between all supply terminals connected together and enclosure							
	Insulation resistance	50 M Ω , or more, with 500 V DC megger between all supply terminals connected together and enclosure							
	Vibration resistance	10 to 500 Hz frequency, amplitude 3 mm 0.118 in or maximum acceleration 196 m/s ² , in X, Y and Z directions for two hours each							
	Shock resistance	1,000 m/s ² acceleration (100 G approx.) in X, Y and Z directions for three times each							
Temperature characteristics		Over ambient temperature range 0 to +50 °C +32 to +122 °F : within \pm 2 % F.S. of detected pressure at +25 °C +77 °F							
Pressure port		DPH-10□(-R) : R ^{1/8} male thread + M5 female thread, DPH-10□-M3(-R) : M3 male thread (for installing gasket) DPH-10□-M5(-R) : M5 male thread (for installing gasket)							
Material		Front case: PBT, Rear case: PBT (glass fiber reinforced), Pressure port: Stainless steel (SUS303), O-ring: NBR Pressure element: Silicon diaphragm, PPS							
Connecting method		Connector							
Cable		0.2 mm ² 4-core oil resistant cabtyre cable (Models with "-R" affixed to the Model No. have flexible, oil-resistant cabtyre cable)							
Cable extension		Extension up to total 10 m 32.808 ft is possible with 0.2 mm ² , or more, cable.							
Weight	Net weight	DPH-10□(-R) : Head 10 g approx. / Cable 40 g approx., DPH-10□-M3/M5(-R) : Head 6 g approx. / Cable 40 g approx.							
	Gross weight	DPH-10□(-R) : 80 g approx., DPH-10□-M3/M5(-R) : 70 g approx.							
Accessory		Connector (e-CON): 1 pc.							

Notes: 1) Where measurement conditions have not been specified precisely, the conditions used were an ambient temperature of +25 °C **+77 °F**.

2) The sensor head can be used independently.

3) Model No. having the suffix "-R" is flexible cable type.

SPECIFICATIONS

Controllers

Type		NPN output type	PNP output type
Item	Model No.	DPC-101	DPC-101-P
Applicable sensor head		DPH-101□, DPH-102□, DPH-103□	
Rated pressure range (Note 2)		Compound pressure: -100.0 to +100.0 kPa, Positive pressure: 0 to +1.000 MPa, Vacuum pressure: 0 to -101.0 kPa	
Set pressure range (Note 2)		Compound pressure: -199.9 to +199.9 kPa (-1.999 to +1.999 kgf/cm ² , -19.98 to +19.98 psi, -1.999 to +1.999 bar, -1510 to +1537 mmHg, -59.4 to +60.5 inHg) Positive pressure: -1.050 to +1.050 MPa (-10.71 to +10.71 kgf/cm ² , -152.2 to +152.2 psi, -10.50 to +10.50 bar) Vacuum pressure: +101.3 to -101.3 kPa (+1.033 to -1.033 kgf/cm ² , +14.70 to -14.70 psi, +1.013 to -1.013 bar, +760 to -760 mmHg, +29.9 to -29.9 inHg)	
Supply voltage		12 to 24 V DC ± 10 % Ripple P-P 10 % or less	
Power consumption		Normal operation: 960 mW or less (Current consumption 40 mA or less at 24 V supply voltage) ECO mode (STD): 720 mW or less (Current consumption 30 mA or less at 24 V supply voltage) ECO mode (FULL): 600 mW or less (Current consumption 25 mA or less at 24 V supply voltage) Excluding the current consumption of sensor head and analog output current	
Sensor head supply voltage		Same as supply voltage	
Comparative outputs (Comparative output 1, 2)		NPN open-collector transistor (2 outputs) • Maximum sink current: 100 mA • Applied voltage: 30 V DC or less (between comparative output and 0 V) • Residual voltage: 1 V or less (at 100 mA sink current)	PNP open-collector transistor (2 outputs) • Maximum source current: 100 mA • Applied voltage: 30 V DC or less (between comparative output and +V) • Residual voltage: 1 V or less (at 100 mA source current)
	Output operation	NO / NC, selectable by key operation	
Output modes		EASY mode / Hysteresis mode / Window comparator mode	
Hysteresis		Minimum 1 digit (variable) (however, 2 digits when using psi unit)	
Repeatability		With vacuum / positive pressure type connected: within ±0.2 % F.S. (±2 digits) With compound pressure type connected: within ±0.2 % F.S. (±4 digits)	
Response time		0.5 ms, 1 ms, 2.5 ms, 5 ms, 10 ms, 25 ms, 50 ms, 100 ms, 250 ms, 500 ms, 1,000 ms, 5,000 ms, selectable by key operation	
Short-circuit protection		Incorporated	
Analog output		<Analog voltage output> • Output current: 1 to 5 V DC • Zero point: within 1 V ± 0.5 % F.S. (vacuum / positive pressure type) within 3 V ± 0.5 % F.S. (compound pressure type) • Span: within 4 V ± 0.5 % F.S. • Linearity: within ±0.1 % F.S. • Output impedance: 1 kΩ approx.	<Analog current output> • Output current: 4 to 20 mA • Zero point: within 4 mA ± 1 % F.S. (vacuum / positive pressure type) within 12 mA ± 1.5 % F.S. (compound pressure type) • Span: within 16 mA ± 1.5 % F.S. • Linearity: within ±0.1 % F.S. • Load resistance: 250 Ω (max.).
	Sensor head input	Input voltage range: 1 to 5 V DC (over rated pressure range)	
Inputs	External input (Auto-reference function/ Remote zero-adjustment function)	ON voltage: +0.4 V DC or less OFF voltage: +5 to +30 V DC, or open Input impedance: 10 kΩ approx. Input time: 1 ms or more	ON voltage: +5 V to +V DC OFF voltage: +0.6 V DC or less, or open Input impedance: 10 kΩ approx. Input time: 1 ms or more
	Display	4 digits + 4 digits 3-color LCD display (Display refresh rate: 250 ms, 500 ms, 1,000 ms, selectable by key operation)	
	Displayable pressure range	Vacuum pressure: +5.1 to -101.3 kPa, Positive pressure: -0.050 to +1.020 MPa, Compound pressure: -101.3 to +105.0 kPa	
Operation indicator		Orange LED (Comparative output 1 operation indicator, comparative output 2 operation indicator: Lights up when each comparative output is ON)	
Environmental resistance	Protection	IP40 (IEC)	
	Ambient temperature	-10 to +50 °C +14 to +122 °F (No dew condensation or icing allowed), Storage: -10 to +60 °C +14 to +140 °F	
	Ambient humidity	35 to 85 % RH, Storage: 35 to 85 % RH	
	Voltage withstandability	1,000 V AC for one min. between all supply terminals connected together and enclosure	
	Insulation resistance	50 MΩ, or more, with 500 V DC megger between all supply terminals connected together and enclosure	
	Vibration resistance	10 to 500 Hz frequency, amplitude 3 mm 0.118 in or maximum acceleration 196 m/s ² , in X, Y and Z directions for two hours each (when panel mounting bracket is mounted : 10 to 150 Hz frequency, amplitude 0.75 mm 0.030 in or maximum acceleration 49 m/s ² , in X, Y and Z directions for two hours each)	
Shock resistance	100 m/s ² acceleration (10 G approx.) in X, Y and Z directions for three times each		
Temperature characteristics		Within ±0.5 % F.S. (ambient temperature range based on +20 °C +68 °F)	
Material		Enclosure: PBT (glass fiber reinforced), LCD display: Acrylic, Mounting threaded part: Brass (nickel plated), Switch part: Silicone rubber	
Connecting method		Connector	
Cable length		Total length up to 100 m 328.084 ft is possible with 0.3 mm ² , or more, cable.	
Weight		Net weight: 25 g approx. (excluding connector attached cable), Gross weight: 140 g approx.	
Accessories		CN-66A-C2 (Connector attached cable 2 m 6.562 ft), Pressure unit label: 1 set	

Notes: 1) Where measurement conditions have not been specified precisely, the conditions used were an ambient temperature of +20 °C +68 °F.

2) It changes automatically according to the connected pressure sensor head.

3) The values specified above are applied only to the controller.