

Digital pressure switch DPX300-HIAIR User Manual

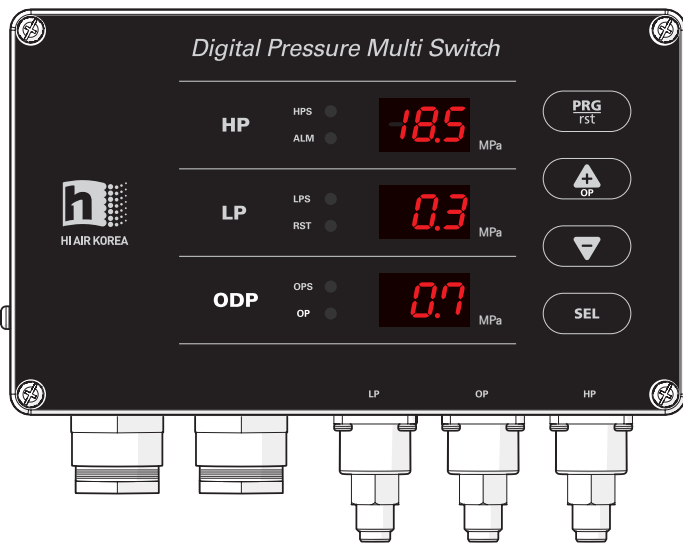


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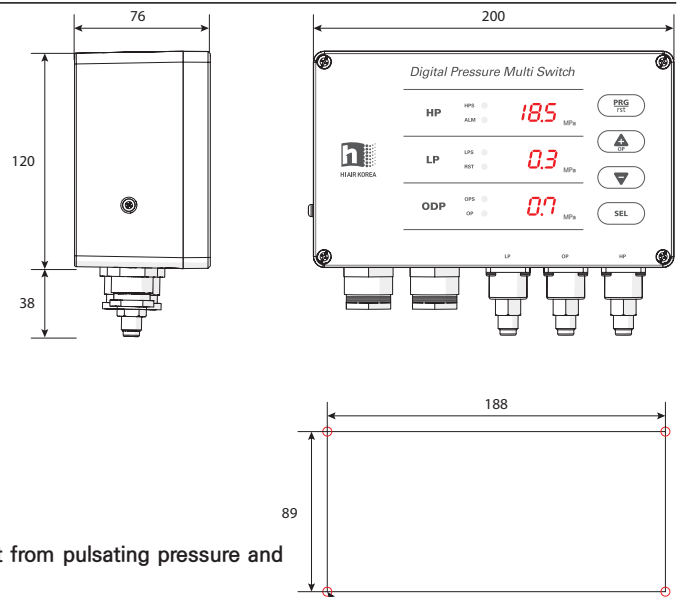


Cautions

1. This product may cause an electric shock in handling. Please do not attempt to open it with power turned on.
 2. This product should be installed in a place fixed secured by a rack or panel.
 3. This product can be used under the following environmental condition. ① Indoor ② Pollution Degree 2 ③ At an altitude of 2000m or below
 4. Power input must be within the designated ranges.
 5. To turn on or turn off power supply for this product, please the circuit breaker or switch of a standard product of IEC 60947-1 or IEC 60947-3 product and install it within a close distance allowing convenient operation by user.
 6. Please be understood that if this product is dismantled or modified discretionary, after sales service will not be able to be provided.
 7. An output wire to be used for this product should be inflammable grade FV1 (V-1 grade or above), the thickness of the wire should be AWG No. 20 or above(0.50mm²).
 8. In order to prevent it from an inductive noise, please maintain the high-voltage wire and power wire separated.
 9. Please avoid installing the product in a place where a strong magnetism, noise, severe vibration and impact exist.
 10. When extending the sensor wire, use a shield wire and do not extend it unnecessary long.
 11. The sensor wire and signal wire should be away from the power and load wires using conduits separately installed.
 12. Please avoid using the product near a device generating strong high frequency noise (high-frequency welding machine, high-frequency sewing machine, high-frequency radiotelegraph, high capacity SCR controller)
 13. Product's damages other than those described in the guarantee conditions provided by the manufacturer shall not be responsible by us.
 14. If this unit is used to control machineries (Medical equipment, vehicle, train, airplane, combustion apparatus, entertainment, processing and transportation equipment, elevator and various safety device etc.) enabling to effect on human or property, it is required to install fail-safe device.
- ※ The Aforementioned precautions must be observed, and if you fail to do so, it may cause a product's breakdown.
 ※ The specifications, dimensions, and etc. are subject to change for enhancement without a prior notice.



DIMENSIONS AND MOUNTING(unit: mm)



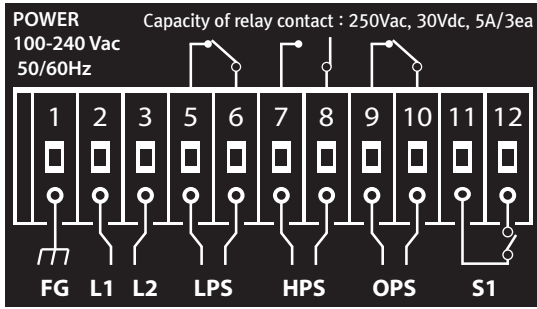
※ Please install a siphon tube to protect from pulsating pressure and high temperature contact.

SPECIFICATIONS(STANDARD MODEL)

Power	100 – 240 Vac, 50/60 Hz	
Power Consumption	MAX 10 VA	
Output	3P Relay Outputs / 250 Vac, 30 Vdc, 5 A	
Pressure Sensors	Measurement Range	- 0.1 ~ 3 MPa(HP), -0.1 ~ 1.5 MPa(LP, OP)
	Accuracy	±0.5 %FS @ 25 °C
	Overpressure	150 %FS
	Stability	±0.5 %FS/year
	Shock	20 g sinusoidal, 11 msec
	Vibration	x-y-z directions of 5 -2000Hz / 10g
	Working Temp.	-40 ~ 125 °C
	Connection	7/16UNF* / MALE
Pressure Type	Gauge	
Dimensions	200(W)mm X 160(H)mm X 76(D)mm	
Weight	1.3kg	
Protection rating	IP54(Housing)	
Operation	Temperature -20 ~ 70 °C / Humidity 90%RH or less	
Storage	Temperature -20 ~ 80 °C / Humidity 90%RH or less	

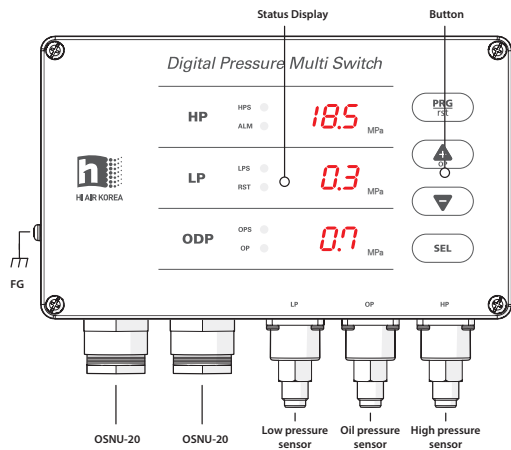
※ Specifications are subject to change without prior notice.

WIRING DIAGRAM



No	Connection	Description
1	FG	
2	L1	100 – 240Vac, 50/60Hz Power Input
3	L2	
5	LPS	Open when the low pressure is below lower limit
6	LPS	Common signal
7	HPS	Close when the high pressure is above the upper limit
8	HPS	Common signal
9	OPS	Open when the oil pressure is below lower limit
10	OPS	Common signal
11	S1	Compressor operation status input switch
12	S1	Operation: Close contact, stops: Open contacts

DISPLAY AND CONTROLS



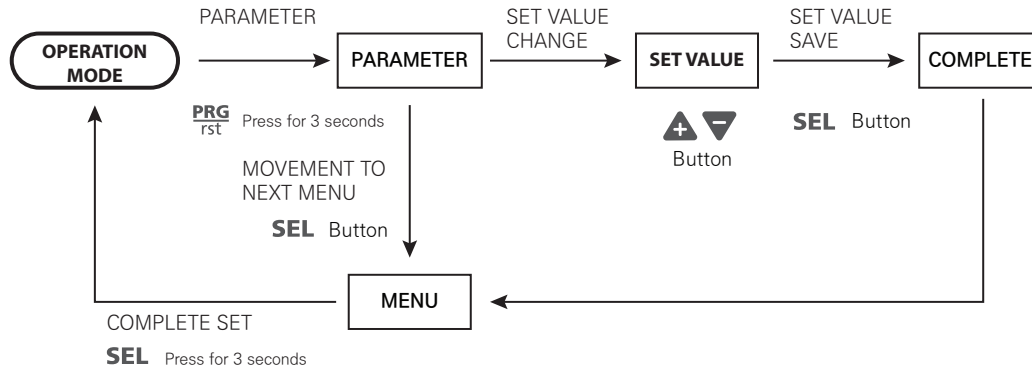
	HPS	ON/OFF of Output / ON when Overpressure
	ALM	On when alarm occurs
LED	LPS	ON/OFF of Output / ON when Underpressure
	RST	ON when Manual Reset
	OPS	On/Off of output / On when oil pressure
	OP	On when displaying oil pressure
	PRG / RST	Parameter Settings / Manual Reset(if pressed twice quickly)
	▲ / OP	Increase or Move Up / Display of oil pressure
Button	▼	Decrease or Move Down
	SEL	Select & Save / Display of Saturated Temperature
	PRG / RST + ▼	Setup values will be initialized if pushing PRG button and ▼ button for 10 seconds.

TRIP / ALARM MESSAGES ※ When it alarms, it beeps and all the outputs are cut off. To stop the beep, press the reset.

Code	Menu	Description / Instructions	Response at Detection	Reset Type
SYS	Internal Parameter Error	Change any parameters and turn off. Then restart.	Immediate Stop	Automatic Reset
HoP	High Pressure Sensor Open	Please check a high pressure sensor because it is open.	Immediate Stop	Automatic Reset
HSH	High Pressure Sensor Short	Please check a high pressure sensor because it is short.	Immediate Stop	Automatic Reset
LoP	Low Pressure Sensor Open	Please check a low pressure sensor because it is open.	Immediate Stop	Automatic Reset
LSH	Low Pressure Sensor Short	Please check a low pressure sensor because it is short.	Immediate Stop	Automatic Reset
OoP	Oil Pressure Sensor Open	Please check a oil pressure sensor because it is open.	Immediate Stop	Automatic Reset
OSH	Oil Pressure Sensor Short	Please check a oil pressure sensor because it is short.	Immediate Stop	Automatic Reset

PARAMETER

- Press PRG button for 3 seconds to change parameters
- Movement to next menu and storage of set value during parameter setup are performed by SEL button.
- Set value will be flickering in every 0.5 seconds and change set value using ▲ or ▼ button
- If there was no input for 3 minutes during setup, it will be returned to operation mode.
- Setup values will be initialized if pushing PRG button and ▼ button for 10 seconds.



■ PARAMETER TABLE (PRG Button Push for 3 Sec.)

No	Menu	Code	Unit	Step	Min	Max	Default	Custom Setup
1	High Pressure Switch Set Value	<i>HPS</i>	MPa	0.01	0.0	3.0	<i>18.5</i>	
2	High Pressure Switch Reset Mode (※1) (Manual / Automatic Reset)	<i>HPH</i>	<i>R</i> = Automatic Reset		<i>H</i> = Manual Reset		<i>H</i>	
3	High Pressure Switch Releasing Value	<i>HPF</i>	MPa	0.01	0.0	<i>HPS</i> - 0.01	<i>145</i>	
4	High Pressure Switch sense delay	<i>HPd</i>	sec	1	0	999	<i>0</i>	
5	Low Pressure Switch Set Value	<i>LPS</i>	MPa	0.01	-0.1	1.5	<i>0.03</i>	
6	Low Pressure Switch Reset Mode (※1) (Manual / Automatic Reset)	<i>LPH</i>	<i>R</i> = Automatic Reset		<i>H</i> = Manual Reset		<i>R</i>	
7	Low Pressure Switch Releasing Value	<i>LPF</i>	MPa	0.01	<i>LPS</i> + 0.01	1.5	<i>0.13</i>	
8	Low Pressure Switch Delay Time (※2)	<i>LPd</i>	sec	1	0	999	<i>0</i>	
9	Oil Pressure Switch Set Value (※3)	<i>OPS</i>	MPa	0.01	0.0	1.6	<i>0.07</i>	
10	Oil Pressure Switch Reset Mode (※1) (Manual / Automatic Reset)	<i>OPH</i>	<i>R</i> = Automatic Reset		<i>H</i> = Manual Reset		<i>H</i>	
11	Oil Pressure Switch Releasing Value (※3)	<i>OPF</i>	MPa	0.01	<i>OPS</i> + 0.01	1.6	<i>0.09</i>	
12	Oil Pressure Switch Delay Time (※4)	<i>OPd</i>	sec	1	0	999	<i>60</i>	
13	Oil Pressure Switch Control Mode	<i>OdP</i>	<i>0</i> - <i>L</i> = <i>oP</i> - <i>LP</i>		<i>H</i> - <i>0</i> = <i>HP</i> - <i>oP</i>		<i>0</i> - <i>L</i>	
14	Refrigerant Selection (※5)	<i>rFY</i>	<i>r22</i> (0)= R22 <i>124</i> (3)= R-124 <i>407</i> (6)= R-407c <i>r23</i> (1)= R23 <i>134</i> (4)= R-134a <i>410</i> (7)= R-410a <i>123</i> (2)= R-123 <i>404</i> (5)= R-404a <i>507</i> (8)= R-507			<i>407</i>		
15	Low Pressure Offset (※6)	<i>LoF</i>	MPa	0.01	-0.19	0.19	<i>0.0</i>	
16	High Pressure Offset (※6)	<i>HoF</i>	MPa	0.01	-0.19	0.19	<i>0.0</i>	
17	Oil Pressure Offset (※6)	<i>OoF</i>	MPa	0.01	-0.19	0.19	<i>0.0</i>	

- (※1) Reset mode : Automatic Reset (*R*): It will be reset automatically when reaching releasing pressure value. Manual reset (*H*): It will not be reset when reaching release pressure value unless users press **RST** button twice consecutively.
- (※2) Low pressure switch delay time : If output is activated, it maintains ON status during minimum ON time even under the OFF condition.
- (※3) Oil Pressure Switch Set Value : Differential pressure(*odP*) = Oil pressure - Low pressure
 When input switch for compressor operation status (S1) is closed (Normally closed contact (N.C)), it becomes an ON condition for *oPS* (Oil Pressure Switch Set Value) output if *odP* (Differential pressure valve) is less than *oPS* (Oil Pressure Switch Set Value). Output is de-activated if *odP* (Differential pressure valve) is higher than *oPF* (Oil Pressure Switch Releasing Value) after output is activated.
- (※4) Oil Pressure Switch Delay Time : Output will be activated after maintaining delay time which is set even though it is under the ON condition.
 LED lamp will be turned on a light simultaneously with output after flickering during delay time.
- (※5) Refrigerant selection : Display saturation temperature in accordance with selected refrigerant.
- (※6) Offset : Offset the differential for pressure sensor. e.g)
 If displayed pressure value: 2.0bar and actual pressure value: 0.22MPa It is offset by inputting +0.02MPa.