

# PID CONTROLLERS

## MID RANGE

- VERSIONS
  - INDICATOR
  - ONOFF CONTROLLER
  - PID CONTROLLER
- COMPACT DESIGN WITH LOW DEPTH
- LARGE DISPLAY
- 1 ANALOG OUTPUT, 2 RELAYS
- IP66 / NEMA 4X (OPTIONAL)



**NEX601**  
48x48x85



**NEX602**  
48x96x35



**NEX605**  
96x96x35

# PID CONTROLLERS

## MID RANGE

### SPECIFICATIONS

All specifications at ambient of 25 °C unless specified otherwise

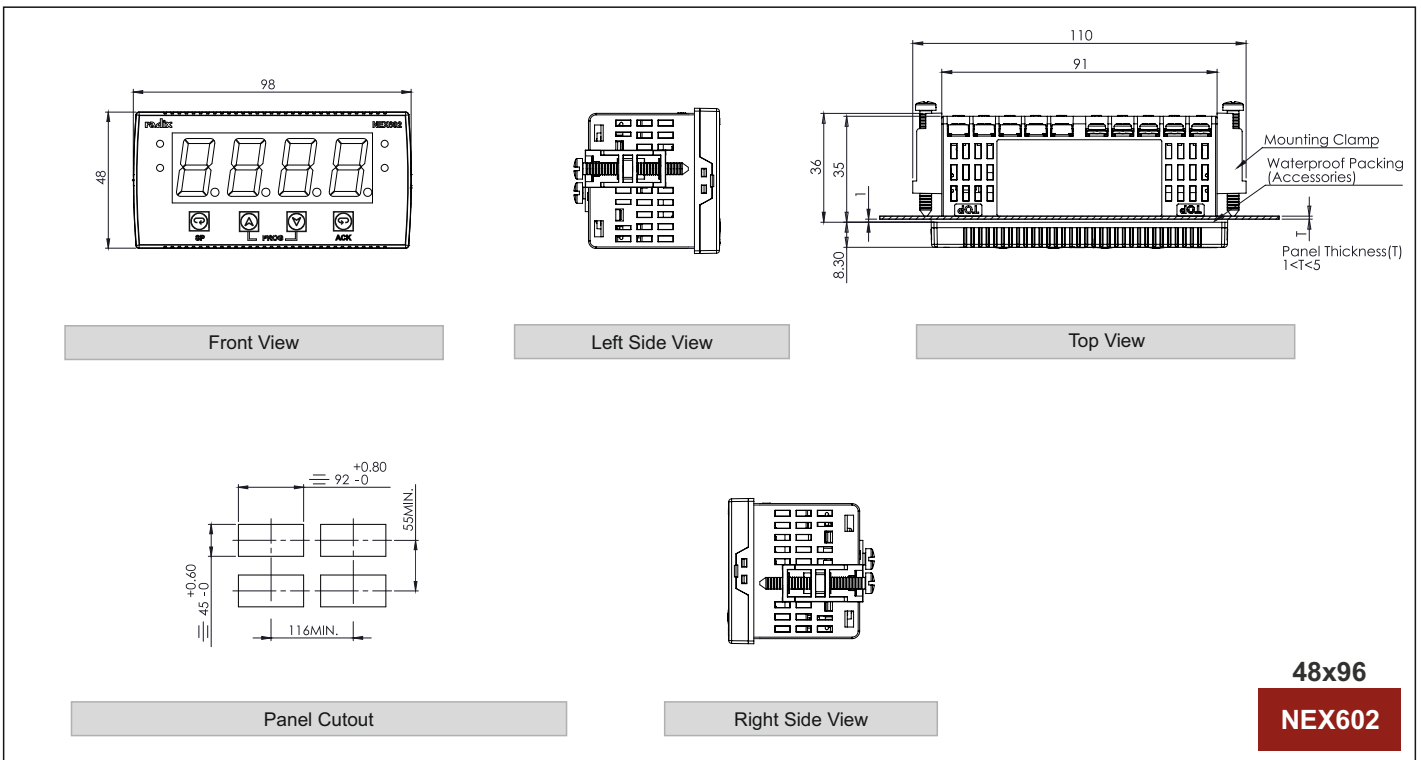
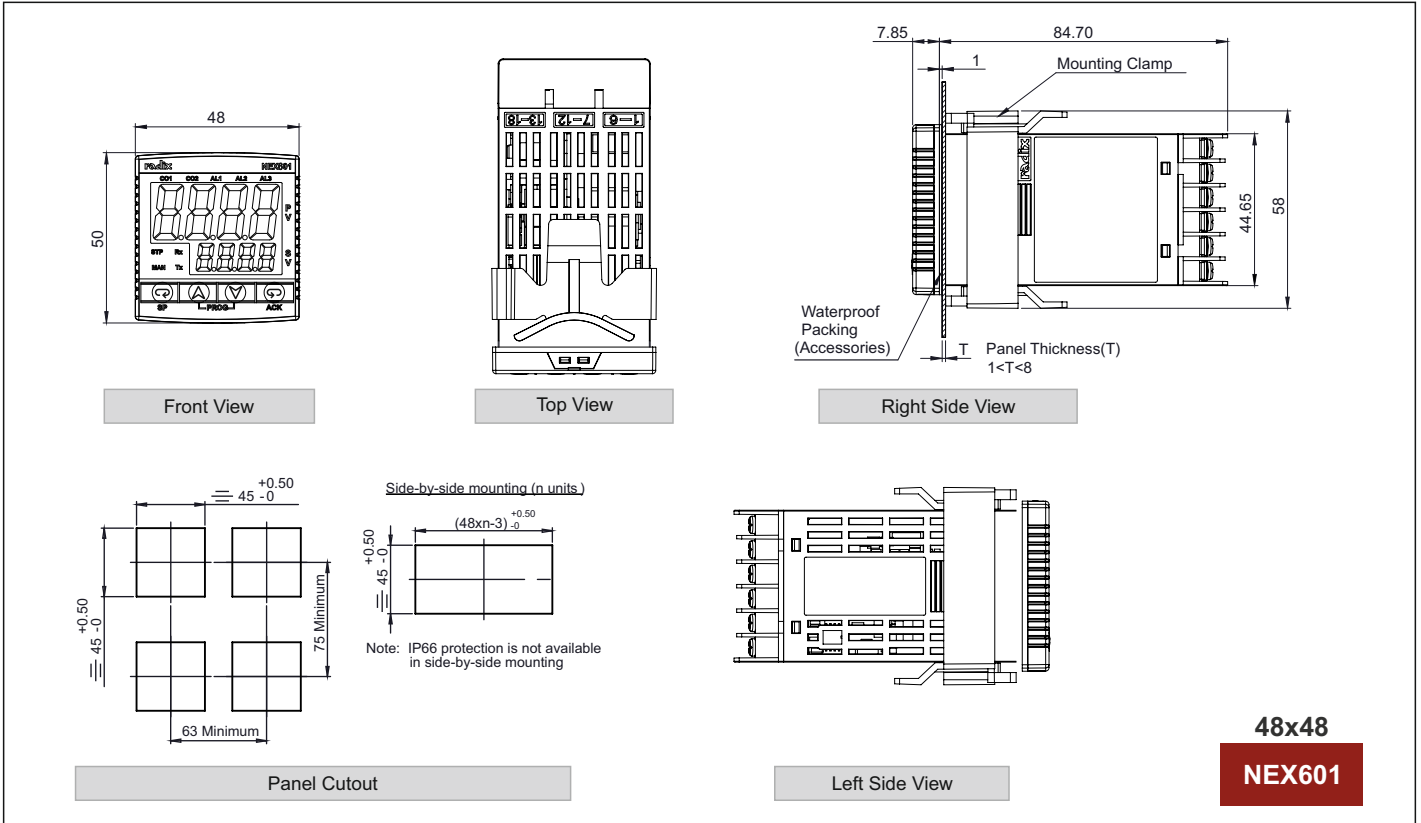
<p><b>INPUTS</b></p> <p>Input</p> <p>Thermocouple RTD Voltage Current</p> <p>Sampling time Range limits Accuracy</p> <p>Warm up time for specified accuracy Cold junction compensation</p>	<p>B, E, J, K, N, R, S, T Pt100, 3-wire 0~10 V 0~20mA, 4~20mA 200 ms See Table 1 Thermocouple : ± 0.25% of FS ±1 °C Pt100 : ± 0.05% of FS ±1 °C Linear inputs : ±0.25% of FS ±1 digit 30 minutes</p> <p>Automatic</p>	<p><b>TEMPERATURE, HUMIDITY</b></p> <p>Ambient operating temperature Relative operating humidity</p> <p>-10 to 50 °C Below 90% RH, non-condensing</p>
<p><b>OUTPUTS</b></p> <p>No. of setpoints No. of relays Relay contact type Relay contact rating</p> <p>SSR drive No. of analog outputs Current output</p> <p>Maximum load for current output Voltage output Load for voltage output</p>	<p>2SP (Relay in control) 3SP (Analog output in control) 2 NO-C-NC (Relay1), NO-C (Relay2) 7A/250 V AC (Relay1) 5A/250 V AC (Relay2) 12 V DC drive signal for external SSR 0 / 1 4~20 mA / 0~20 mA / 20~4 mA / 20~0 mA isolated from input 500 ohms 0-10 V / user specified &gt;10 Kohms</p>	<p><b>PROGRAMMABLE PARAMETERS</b></p> <p>Mode Setpoint Unit Resolution For RTD &amp; TC For Linear Input High scale (Input/Output) Low scale (Input/Output) High Range for Voltage Input Low Range for Voltage Input Digital filter Bias Setpoint offset Band (P) Integral time (I) Derivative time (D) Cycle time Hysteresis (ON/OFF control) Relay logic</p> <p>Indicator/On-off Controller/PID Controller Full range (See Table 1) °C, °F, EU 0.1 or 1 0.001, 0.01, 0.1 or 1 Full range (See Table 1) 0~10 V 0~10 V Low, High, None -99.9 ~ 99.9 0.1~999.9 0.1~999.9, 0~100% of span Off, 1~6000 seconds Off, 1~6000 seconds 1~1000 seconds 0.1-999.9 a. Heat b. Cool c. Full scale high alarm d. Full scale low alarm e. Deviation high alarm f. Deviation low alarm g. Inband alarm h. Outband alarm Auto/Latch/Latch-hold (at power on) Through key ON, OFF</p>
<p><b>INDICATION</b></p>	<p>See Table 2</p>	<p>Alarm types Alarm acknowledge Setpoint lock</p>
<p><b>POWER SUPPLY</b></p> <p>Supply voltage</p>	<p>a) 85~265 V AC, 50/60 Hz b) 20~30 V DC</p>	
<p><b>ISOLATION</b></p> <p>Mutual isolation between input, output, supply, relays</p>	<p>1500 VAC rms, 50Hz / 1 minute</p>	
<p><b>ENCLOSURE</b></p> <p>Mounting Terminals Housing material Dimensions (in mm) Weight Protection</p> <p>Front</p> <p>Rear (behind panel)</p>	<p>Panel flush mounting M3 screw, suitable for 2.5 mm<sup>2</sup> wire ABS plastic, grade: UL94V-0 See Table 2 and Fig.1 See Table 2</p> <p>IP66(IEC) / NEMA 4X (optional) (when properly installed using IP66 kit) IP20 (IEC 6052)</p>	

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## MID RANGE

### DIMENSIONS mm

Fig.1

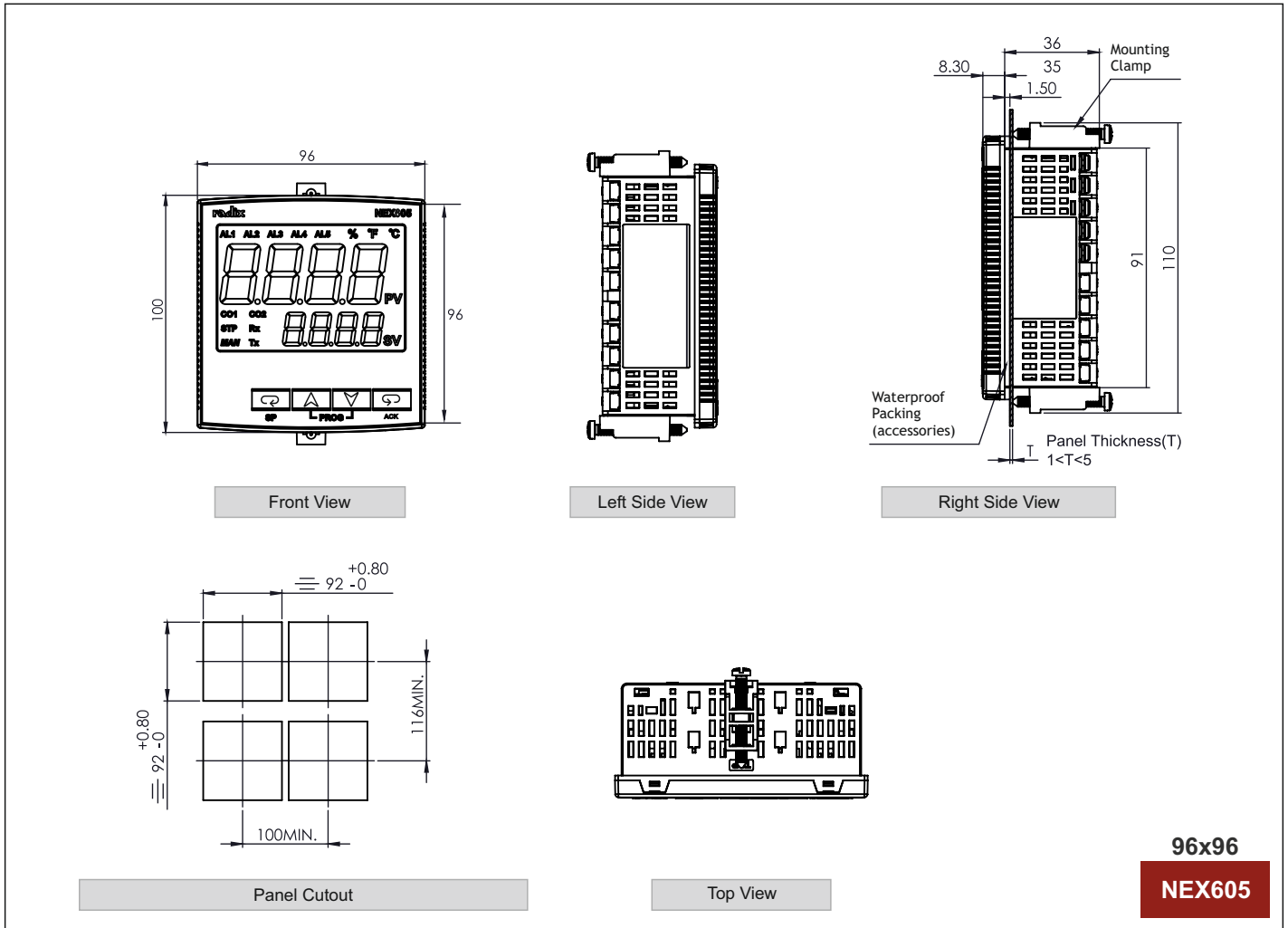


# PID CONTROLLERS

## MID RANGE

### DIMENSIONS mm

Fig.1



### TABLE 1

SENSOR / INPUT	RANGE LIMITS (°C / EU)	
	LOW SCALE	HIGH SCALE
Iron / Constantan (J)	-100	850
Chromel / Alumel (K)	-200	1370
Pt / Pt - 13% Rh (R)	0	1700
Pt / Pt - 10% Rh (S)	0	1700
Copper / Constantan (T)	-200	400

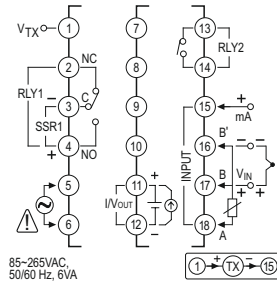
SENSOR / INPUT	RANGE LIMITS (°C / EU)	
	LOW SCALE	HIGH SCALE
Pt - 6% Rh / Pt - 30% Rh (B)	400	1800
Chromel / Constantan (E)	-200	850
Nicrosil / Nisil (N)	-200	1300
Pt100, 3-wire	-200	850
Linear (4~20 mA, 0~10 V)	-1999	9999

# PID CONTROLLERS

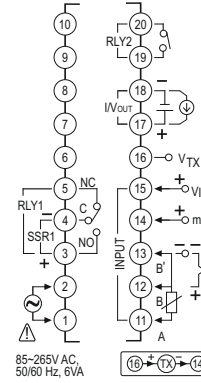
## MID RANGE

### CONNECTION DIAGRAM

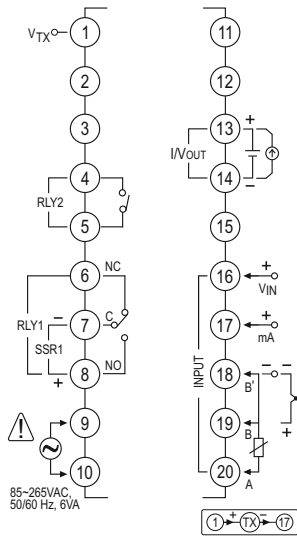
NEX601



NEX602




NEX605



# PID CONTROLLERS

## MID RANGE

**TABLE 2**

Product Photo			
Model	NEX601	NEX602	NEX605
Input type	TC, RTD, mA, V <sub>IN</sub>		
Size	48H x 48W x 85D mm	48H x 96W x 35D mm	96H x 96W x 35D mm
Display	Upper 0.64" / 16.3 mm Lower 0.35" / 9 mm	0.8" / 20.32 mm	Upper 1" / 25.4 mm Lower 0.56" / 14.2 mm
Relay output	2		
Isolated analog output	Isolated 1 x 0/4~20 mA or 0-10 V DC for control / retransmission output		
Transmitter excitation supply	Available		
Maximum configuration	A: 1 x Input, 2 x Relays, 1 x Analog output B: 1 x Input, 2 x Relays		

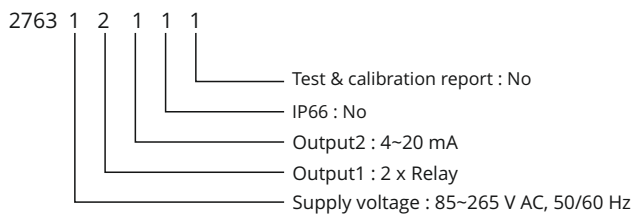
### ORDERING INFORMATION

#### MODEL : NEX601

##### Standard Order Codes \*

Product code	2763						
Supply voltage	1						85~265 V AC, 50/60 Hz
	2						20~30 V DC
Output1		0					No Relay
		1					1 x Relay
		2					2 x Relay
Output2			0				None
			1				4~20 mA
			2				0~10 V
IP66				1			No
				2			Yes
Test & calibration Report					1		No#
					2		Yes**

#### EXAMPLE



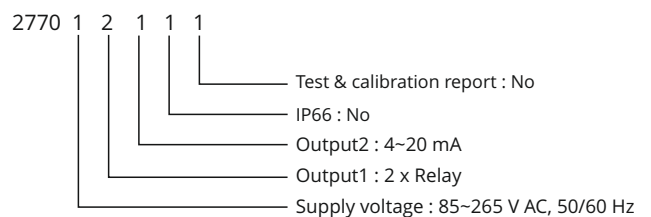
\* Contact sales for SSR drive outputs  
# Certificate Of Conformance is included  
\*\* Chargeable

#### MODEL : NEX602

##### Standard Order Codes \*

Product code	2770						
Supply voltage	1						85~265 V AC, 50/60 Hz
	2						20~30 V DC
Output1			0				No Relay
			1				1 x Relay
			2				2 x Relay
Output2				0			None
				1			4~20 mA
				2			0~10 V
IP66					1		No
					2		Yes
Test & calibration Report						1	No#
						2	Yes**

#### EXAMPLE



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## MID RANGE

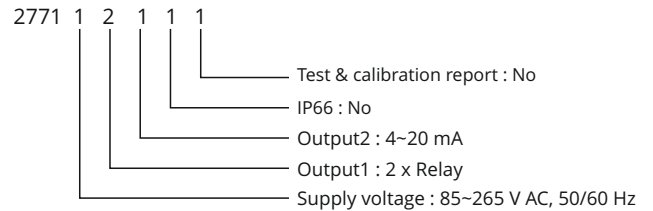
### ORDERING INFORMATION

**MODEL : NEX605**

**Standard Order Codes \***

Product code	2771						
Supply voltage	1						85~265 V AC, 50/60 Hz
	2						20~30 V DC
Output1		0					No Relay
		1					1 x Relay
		2					2 x Relay
Output2			0				None
			1				4~20 mA
			2				0~10 V
IP66					1		No
					2		Yes
Test & calibration Report						1	No#
						2	Yes**

**EXAMPLE**



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### PREFERRED ORDER CODES

Product	Order Code	Brief Specs	Power Supply
NEX601	2763 10011	Indicator	SMPS
NEX601	2763 10111	Indicator, Iout	SMPS
NEX601	2763 12011	2xRLY	SMPS
NEX601	2763 12111	2xRelay, Iout	SMPS
NEX602	2770 10011	Indicator	SMPS
NEX602	2770 10111	Indicator, Iout	SMPS
NEX602	2770 12011	2xRLY	SMPS
NEX602	2770 12111	2xRelay, Iout	SMPS
NEX605	2771 10011	Indicator	SMPS
NEX605	2771 10111	Indicator, Iout	SMPS
NEX605	2771 120 11	2xRLY	SMPS
NEX605	2771 12111	2xRelay, Iout	SMPS

CAT#646R2/A

**ENQUIRIES**

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 Gauges: gauges@radix.co.in  
 Automation: automation@radix.co.in  
 Level: level@radix.co.in

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