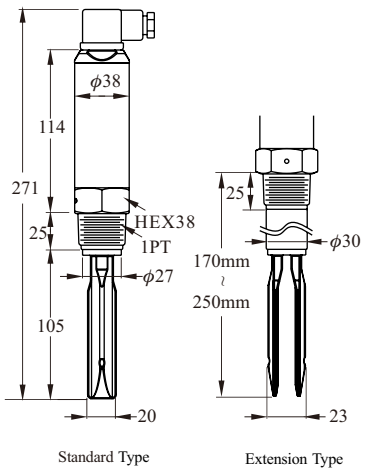
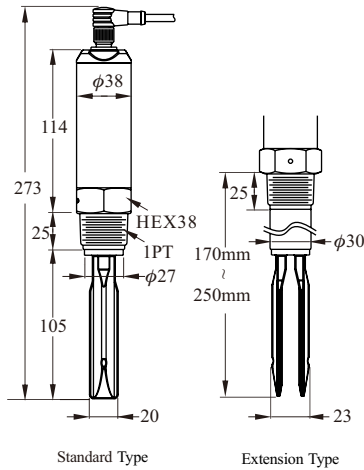
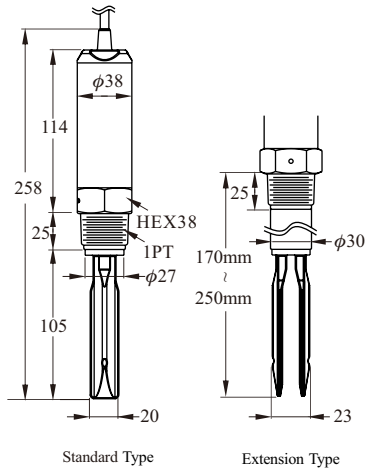
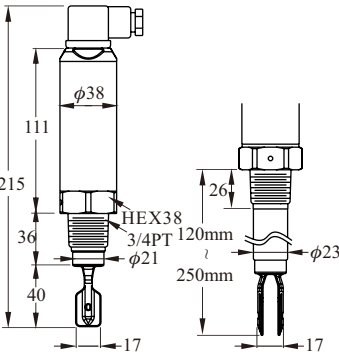
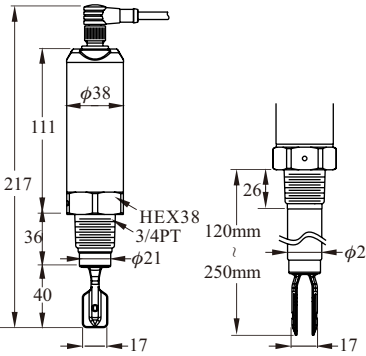
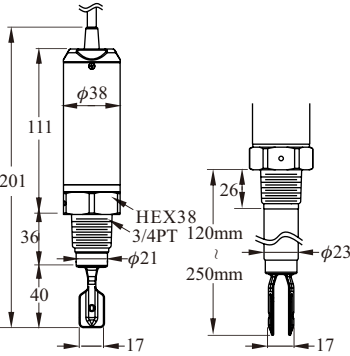


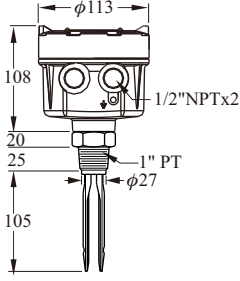
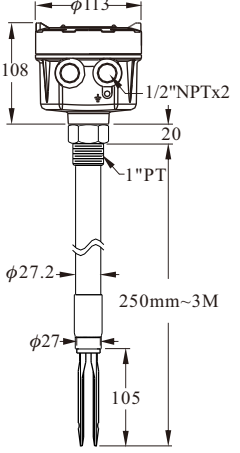
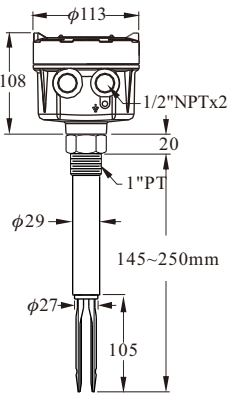
# LITE-TYPE

<p>Dimensions (Unit:mm)</p>			
<p>Model no.</p>	<p><b>SC2400/2410 【DIN Connector】</b></p>	<p><b>SC2400/2410 【M12 Connector】</b></p>	<p><b>SC2400/2410 【Cable Wire Type】</b></p>
<p>Supply voltage &amp; output</p>	<p>SC240 □□:20~250Vac / Vdc 2 wire Contactless electronic switch. SC241□□:12~55 Vdc 3 wire PNP/ NPN Output.</p>		
<p>Fork length</p>	<p>100mm</p>		
<p>Ambient temp.</p>	<p>-40~80°C</p>		
<p>Ambient humidity</p>	<p>80% RH non-condensed</p>		
<p>Storage temp.</p>	<p>-40~85°C</p>		
<p>Process temp.</p>	<p>SC24□□□T: -40~+150°C SC24□□□□: -40~+100°C</p>		
<p>Process pressure</p>	<p>Maximum 40 Bar</p>		
<p>Min. material density sensed</p>	<p><b>Solid:</b>density: <math>\geq 0.07\text{g/cm}^3</math> <b>Liquid:</b>density: <math>\geq 0.7\text{g/cm}^3</math> Viscosity: 1~10000 cSt</p>		
<p>Magnetic testing</p>	<p>Output function test performed by putting magnets near the indicated spot</p>		
<p>Vibrating frequency</p>	<p>350~370Hz</p>		
<p>Status indication</p>	<p>Green light:indicate power supply Red light:indicate operating mode</p>		
<p>Housing material</p>	<p>SUS304</p>		
<p>Fork material</p>	<p>SUS304, SUS316, SUS316L</p>		
<p>IP protection</p>	<p>IP65</p>	<p>IP67</p>	<p>IP67</p>
<p>Mounting</p>	<p>1" more</p>		
<p>Conduit</p>	<p>Valve plug DIN 43650</p>	<p>M12x1 Connector(180° / 90°)</p>	<p>Cable connector</p>

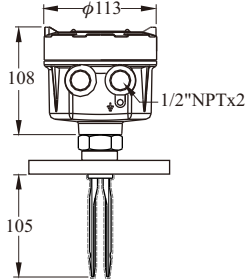
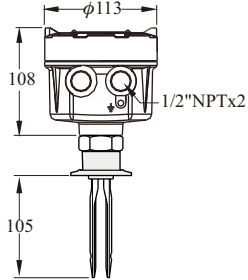
# MINI-TYPE

<p>Dimensions (Unit:mm)</p>	 <p>Standard Type      Extension Type</p>	 <p>Standard Type      Extension Type</p>	 <p>Standard Type      Extension Type</p>
<p>Model no.</p>	<p><b>SC2800/2810 【DIN Connector】</b></p>	<p><b>SC2800/2810 【M12 Connector】</b></p>	<p><b>SC2800/2810 【Cable Wire Type】</b></p>
<p>Supply voltage &amp; output</p>	<p>SC280□:20~250,50/60Hz Vac/Vdc 2 wire Contactless electronic switch. SC281□:12~55 Vdc 3 wire PNP/ NPN Output</p>		
<p>Fork length</p>	<p>40mm</p>		
<p>Ambient temp.</p>	<p>-40°C~80°C</p>		
<p>Ambient humidity</p>	<p>80% RH non-condensed</p>		
<p>Storage temp.</p>	<p>-40°C~85°C</p>		
<p>Process temp.</p>	<p>SC28□□□: -40°C~100°C SC28□□□T: -40°C~150°C</p>		
<p>Process pressure</p>	<p>-1~600PSI (40BAR)</p>		
<p>Min. material density sensed</p>	<p><b>Liquid:</b>density: <math>\geq 0.7\text{g/cm}^3</math> Viscosity: 1~10000 cSt</p>		
<p>Magnetic testing</p>	<p>Output function test performed by putting magnets near the indicated spot</p>		
<p>Vibrating frequency</p>	<p>1 KHz <math>\pm</math> 10%</p>		
<p>Status indication</p>	<p>Green light:indicate power supply Red light:indicate operating mode</p>		
<p>Housing material</p>	<p>SUS304</p>		
<p>Fork material</p>	<p>SUS304, SUS316, SUS316L</p>		
<p>IP protection</p>	<p>IP65</p>	<p>IP67</p>	<p>IP67</p>
<p>Mounting</p>	<p>3/4"more</p>		
<p>Conduit</p>	<p>Valve plug DIN 43650</p>	<p>M12x1 Connector(180° / 90°)</p>	<p>Cable connector</p>

# STANDARD TYPE

<p>Dimensions (Unit:mm)</p>			
<p>Model No.</p>	<p><b>SC1400 【 Standard Type 】</b></p>	<p><b>SC1410 【 Tuning Fork Ultra Extension Type 】</b></p>	<p><b>SC1420 【 Tuning Fork Extension Type 】</b></p>
<p>Level sensor housing</p>	<p>Aluminum / IP65</p>		
<p>Probe construction</p>	<p>SUS 304 / 316 / 316L</p>		
<p>Mounting</p>	<p>1"PT</p>		
<p>Conduit</p>	<p>1/2"NPT×2</p>		
<p>Max. vertical load on rod.</p>	<p>177in.Lbs(20Nm)</p>		
<p>Process pressure.</p>	<p>-1~600PSI (40BAR)</p>		
<p>Power supply</p>	<p>20~250Vac/Vdc,50/60Hz</p>		
<p>Power consumption</p>	<p>10VA</p>		
<p>Ambient temp.</p>	<p>-40°C~60°C</p>		
<p>Process temp.</p>	<p>-40°C~130°C</p>		
<p>Signal output</p>	<p>Relay, SPDT, 5A/250Vac/ 28Vdc, 1 set or 2 set SSR(MOSFET) 400mA/60 Vac/ Vdc, 1 set or 2 set</p>		
<p>Min. material density sensed</p>	<p>Solid:≥0.07g/cm<sup>3</sup>, Liquid: ≥0.7g/cm<sup>3</sup></p>		
<p>Time delay</p>	<p>0.6 Second / Operate; 1~3 Seconds / Reset</p>		
<p>Vibrating frequency.</p>	<p>350~370Hz</p>		
<p>Selectable Fail-safe</p>	<p>Hi./ Lo.</p>		
<p>Selectable sensitivity</p>	<p>Hi./ Lo.</p>		

# STANDARD TYPE

<p>Dimensions (Unit:mm)</p>		
<p>Model No.</p>	<p><b>SC1540</b> <b>【Corrosion Proof Type】</b></p>	<p><b>SC1600</b> <b>【Sanitary Type】</b></p>
<p>Level sensor housing</p>	<p>Aluminum / IP65</p>	
<p>Probe construction</p>	<p>316L Coating TEFLON</p>	<p>316L</p>
<p>Mounting</p>	<p>1" Flange (min.)</p>	<p>2" Sanitary</p>
<p>Conduit</p>	<p>1/2"NPT×2</p>	
<p>Max. vertical load on rod.</p>	<p>177in.Lbs(20Nm)</p>	
<p>Process pressure.</p>	<p>-1~600PSI (40BAR)</p>	
<p>Power supply</p>	<p>20~250Vac/dc, 50/60Hz</p>	
<p>Power Consumption</p>	<p>10VA</p>	
<p>Ambient temp.</p>	<p>-40°C~60°C</p>	
<p>Process temp.</p>	<p>-40°C~130°C</p>	
<p>Signal output</p>	<p>Relay, SPDT, 5A/250Vac/ 28Vdc, 1 set or 2 set SSR(MOSFET) 400mA/60 Vac/ Vdc, 1 set or 2 set</p>	
<p>Min. material density sensed</p>	<p>Solid: <math>\geq 0.07\text{g/cm}^3</math>, Liquid: <math>\geq 0.7\text{g/cm}^3</math></p>	
<p>Time delay</p>	<p>0.6 Second / Operate; 1~3 Seconds / Reset</p>	
<p>Vibrating frequency.</p>	<p>350~370Hz</p>	
<p>Selectable Fail-safe</p>	<p>Hi./ Lo.</p>	
<p>Selectable sensitivity</p>	<p>Hi./ Lo.</p>	

# EX-PROOF TYPE

<p>Dimensions (Unit:mm)</p>		
<p>Model No.</p>	<p><b>SC1740</b> <b>【 Standard Type 】</b></p>	<p><b>SC1741 【 Tuning Fork</b> <b>Ultra Extension Type 】</b></p>
<p>Level sensor housing</p>	<p>Aluminum</p>	
<p>Probe construction</p>	<p>SUS 304 / 316 / 316L</p>	
<p>Mounting</p>	<p>1"PT</p>	<p>1"PT</p>
<p>Conduit</p>	<p>1/2"NPT×2</p>	
<p>Max. vertical load on rod.</p>	<p>177in.Lbs(20Nm)</p>	
<p>Process pressure.</p>	<p>-1~600PSI (40BAR)</p>	
<p>Power supply</p>	<p>20~250,50/60Hz Vac/Vdc</p>	
<p>Power consumption</p>	<p>10VA</p>	
<p>Ambient temp.</p>	<p>-20°C~70°C</p>	
<p>Process temp.</p>	<p>-40°C~130°C</p>	
<p>Signal output</p>	<p>Relay, SPDT, 3A/250Vac/ 28Vdc, 1 set or 2 set          SSR(MOSFET) 400mA/60 Vac/ Vdc, 1 set or 2 set</p>	
<p>Min. material density sensed</p>	<p>Solid: ≥0.07g/cm<sup>3</sup>, Liquid: ≥0.7g/cm<sup>3</sup>, viscosity : 1~10000 cst</p>	
<p>Time delay</p>	<p>0.6 Second / Operate; 1~3 Seconds / Reset</p>	
<p>Vibrating frequency.</p>	<p>350~370Hz</p>	
<p>Selectable Fail-safe</p>	<p>Hi./ Lo.</p>	
<p>Selectable sensitivity</p>	<p>Hi./ Lo.</p>	

# SC35 TUNING FORK LEVEL SWITCH

<p>Dimensions (Unit:mm)</p>			
<p>Model No.</p>	<p><b>SC350 【Standard Type】</b></p>	<p><b>SC351 【Extension Type】</b></p>	<p><b>SC352 【Cable Type】</b></p>
<p>Level sensor housing</p>	<p>Built-in box, aluminum coating IP66/IP67</p>		
<p>Power supply</p>	<p>19 ~253 Vdc / Vac, 50/60 Hz ; NPN / PNP(10~55Vdc)</p>		
<p>Probe construction</p>	<p>Max. 1.5 W</p>		
<p>Voltage endurance capability</p>	<p>3.7 kV</p>		
<p>Overvoltage protection</p>	<p>overvoltage category II</p>		
<p>Storage temp.</p>	<p>-40~85 °C</p>		
<p>Ambient temp.</p>	<p>-40~85 °C</p>		<p>-40~75 °C</p>
<p>Process temp.</p>	<p>-40~150 °C</p>	<p>-40~150 °C</p>	<p>-40~80 °C</p>
<p>Material density</p>	<p><sup>3</sup> 0.01 g/cm<sup>3</sup> or <sup>3</sup> 0.05 g/cm<sup>3</sup></p>		
<p>Measuring frequency</p>	<p>140 Hz ± 5 Hz</p>		
<p>Material dimension</p>	<p>Max.10 mm</p>		
<p>Conduit</p>	<p>1/2"PF / 1/2"NPT(Ex-proof type only supports 1/2"NPT)</p>		
<p>External diameter of cable applicable to conduit</p>	<p>φ6~φ10 mm</p>		
<p>Pressure resistance</p>	<p>Max.25 Bar</p>		<p>Max. 2 Bar</p>
<p>Output signal</p>	<p>2 sets of SPDT relay output/2 sets of transistor output / 3 wires NPN/PNP transistor output</p>		
<p>Contact capacity</p>	<p>Relay: 6A / 250Vac , 6A / 28Vdc ; Transistor: 350mA , 60Vac / Vdc        NPN / PNP / Transistor: 350mA , 55Vdc</p>		
<p>Ex-proof certification</p>	<p>NEPSI / IECEx (optional)</p>		

# SC35 TUNING FORK LEVEL SWITCH

Dimensions (Unit:mm)		
Model No.	<b>SC350 [ High-temp. Type ]</b>	<b>SC351 [ High-temp. Extension Type ]</b>
Level sensor housing	Built-in box, aluminum coating IP66/IP67	
Power supply	19 ~253 Vdc / Vac, 50/60 Hz	
Probe construction	Max. 1.5 W	
Voltage endurance capability	3.7 kV	
Overvoltage protection	overvoltage category II	
Storage temp.	-40~85 °C	
Ambient temp.	-40~85 °C	
Process temp.	-40~280 °C	
Material density	$^3 0.01 \text{ g/cm}^3$ or $^3 0.05 \text{ g/cm}^3$	
Measuring frequency	140 Hz $\pm$ 5 Hz	
Material dimension	Max.10 mm	
Conduit	1/2"PF / 1/2"NPT(Ex-proof type only supports 1/2"NPT)	
External diameter of cable applicable to conduit	$\phi 6 \sim \phi 10 \text{ mm}$	
Pressure resistance	Max. 25 Bar	
Output signal	2 sets of SPDT relay output/2 sets of transistor output	
Contact capacity	Relay: 6A / 250Vac , 6A / 28Vdc Transistor: 350mA , 60Vac / Vdc	
Ex-proof certification	NEPSI / IECEX (optional)	

# SC38 MULTI-FUNCTIONAL TUNING FORK LEVEL SWITCH



NEPSI Ex ia IIC T3~T6 Ga

Dimensions (Unit:mm)				
	<b>SC380</b> 【Standard Type】	<b>SC381</b> 【Extension Type】	<b>SC382</b> 【Ultra Extension Type】	
	Output type	8/16mA output type	3 wires (NPN/PNP) output type	Dual-relay output type
	Working voltage	11 ~36 Vdc	10 ~55 Vdc	19~253Vac/dc,50/60Hz
Power consumption	< 600mW	< 830mW	Max. 1.3W	
Input protection	Reversed power supply protection function		NA	
Overvoltage protection	overvoltage category III			
Measuring error	Max.±1mm			
Repeatability	0.5mm			
Hysteresis band	Approx.2mm			
Storage temp.	-40~85 °C			
Ambient temp.	-40~85 °C (Intrinsically safe type-40~70 °C)	-40~85 °C(Refernce operation manual)		
Process temp.	-40~150 °C (Refernce operation manual)			
Applicable density liquid	≥0.5 g/cm <sup>3</sup> or ≥0.7 g/cm <sup>3</sup>			
Liquid viscosity	Max.10000mm <sup>2</sup> / S(10000cst)			
Granule size contained in the liquid	Max.φ5 mm			
External diameter of cable applicable to conduit	φ6~φ10 mm			
Pressure resistance	Max.40 Bar			
Output signal	Intrinsically safe signal 8/16mA	Transistor output (NPN/PNP)	2 sets of SPDT relay output	
Contact capacity	NA	350mA , 55Vdc	6A / 250Vac , 6A / 28Vdc	
Protection level	IP66/67			
Intrinsically safe parameters	Ui(V)=36V , Ii=100mA,Pi=1W Ci(nF)=0 , Li(uH)=0※	NA	NA	

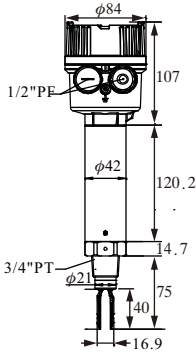
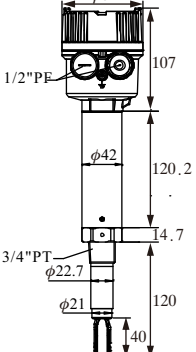
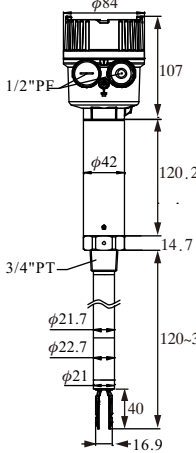

※It shall combine with the ex-proof fence meeting level Ex ia to form the intrinsically safe system. Please refer to page 29 for more details.



# SC38 MULTI-FUNCTIONAL TUNING FORK LEVEL SWITCH



NEPSI Ex ia IIC T3~T6 Ga

Dimensions (Unit:mm)	 <p style="text-align: center;"><b>SC380</b> <b>【High-temp. Type】</b></p>	 <p style="text-align: center;"><b>SC381</b> <b>【High-temp. Extension Type】</b></p>	 <p style="text-align: center;"><b>SC382</b> <b>【High-temp. Extension Type】</b></p>
Output type	 8/16mA output type	3 wires (NPN/PNP) output type	Dual-relay output type
Working voltage	11 ~36 Vdc	10 ~55 Vdc	19~253Vac/dc,50/60Hz
Power consumption	< 600mW	< 830mW	Max. 1.3W
Input protection	Reversed power supply protection function		NA
Overvoltage protection	overvoltage category III		
Measuring error	Max.±1mm		
Repeatability	0.5mm		
Hysteresis band	Approx.2mm		
Storage temp.	-40~85 °C		
Ambient temp.	-40~85 °C(Refernce operation manual)		
Process temp.	-40~150 °C		
Applicable density liquid	$\geq 0.5 \text{ g/cm}^3$ or $\geq 0.7 \text{ g/cm}^3$		
Liquid viscosity	Max.10000mm <sup>2</sup> / S(10000cst)		
Granule size contained in the liquid	Max.φ5 mm		
External diameter of cable applicable to conduit	φ6~φ10 mm		
Pressure resistance	Max.40 Bar		
Output signal	Intrinsically safe signal 8/16mA	Transistor output (NPN/PNP)	2 sets of SPDT relay output
Contact capacity	NA	350mA , 55Vdc	6A / 250Vac , 6A / 28Vdc
Protection level	IP66/67		
Intrinsically safe parameters	Ui(V)=36V , li=100mA,Pi=1W Ci(nF)=0 , Li(uH)=0※	NA	NA

※It shall combine with the ex-proof fence meeting level Ex ia to form the intrinsically safe system. Please refer to page 29 for more details.

# SC39 MULTI-FUNCTIONAL TUNING FORK LEVEL SWITCH

Dimensions (Unit:mm)	SC390 Standard Type		SC391 Extension Type	
Output type	8/16mA output type	3 wires (NPN/PNP) output type	Dual-relay output type	Dual-MOSFET output type
Working voltage	11 ~36 Vdc	10 ~55Vdc	19 ~253Vac/dc, 50/60Hz	19 ~253Vac/dc, 50/60Hz
Power consumption	< 600mW	< 830mW	Max. 1.3W	Max. 1.3W
Input protection	Reversed power supply protection function		NA	NA
Overtoltage protection	overtoltage category III			
Hysteresis band	Approx.5mm			
Ambient temp.	-40~85 °C (Refernce operation manual)			
Process temp.	-40~150 °C (Refernce operation manual)			
Applicable density liquid	$\geq 0.5 \text{ g/cm}^3$ or $\geq 0.7 \text{ g/cm}^3$			
Liquid viscosity	Max.10000mm <sup>2</sup> / S(10000cst)			
External diameter of cable applicable to conduit	$\phi 6 \sim \phi 10 \text{ mm}$			
Pressure resistance	Max.60Bar			
Output signal	signal 8 / 16mA	Transistor output NPN / PNP	2 sets of SPDT relay output	MOSFET SPST×2
Contact capacity	NA	350mA 55Vdc	6A/250Vac/28Vdc	350mA · 60Vac/dc
Protection level	IP66/67			

# SC39 MULTI-FUNCTIONAL TUNING FORK LEVEL SWITCH

Dimensions (Unit:mm)	<b>SC390 High-temp. Type</b>	<b>SC391 High-temp. Extension Type</b>

Output type	8/16mA output type	3 wires (NPN/PNP) output type	Dual-relay output type	Dual-MOSFET output type
Working voltage	11 ~36 Vdc	10 ~55Vdc	19 ~253Vac/dc, 50/60Hz	19 ~253Vac/dc, 50/60Hz
Power consumption	< 600mW	< 830mW	Max. 1.3W	Max. 1.3W
Input protection	Reversed power supply protection function		NA	
Overvoltage protection	overvoltage category III			
Hysteresis band	Approx.5mm			
Ambient temp.	-40~85 °C (Refernce operation manual)			
Process temp.	-40~150 °C			
Applicable density liquid	$\geq 0.5 \text{ g/cm}^3$ or $\geq 0.7 \text{ g/cm}^3$			
Liquid viscosity	Max.10000mm <sup>2</sup> / S(10000cst)			
External diameter of cable applicable to conduit	$\phi 6 \sim \phi 10 \text{ mm}$			
Pressure resistance	Max.60Bar			
Output signal	signal 8 / 16mA	Transistor output NPN / PNP	2 sets of SPDT relay output	MOSFET SPST×2
Contact capacity	NA	350mA 55Vdc	6A/250Vac/28Vdc	350mA · 60Vac/dc
Protection level	IP66/67			

# ORDER INFORMATION

SCX1 <sup>05</sup> <sup>06</sup> <sup>07</sup> <sup>08</sup> <sup>09</sup> - <sup>12</sup> <sup>13</sup> <sup>14</sup> <sup>15</sup> <sup>16</sup> <sup>17</sup> <sup>18</sup> <sup>19</sup> <sup>20</sup> <sup>21</sup> <sup>22</sup> <sup>23</sup> <sup>24</sup> <sup>25</sup> <sup>26</sup> A B

**05 06 Model**

- 00: Standard
- 03: Sanitary

**07 08 Certification**

- 00: None
- 1C: ATEX-Exd
- 7C: NEPSI-Exd
- 5C: TS

**09 Construction**

- A: Standard
- B: Extended type
- C: Lengthened type
- D: Cable type
- E: Anti-Corrosion probe type
- F: Anti-Corrosion extended probe type
- G: Sanitary joint type

**12 Power supply**

- A: 20~250Vac/Vdc, 50/60Hz ; Relay O/P- Barrier terminal
- B: 20~250Vac/Vdc, 50/60Hz ; SSR(MOSFET)- Barrier terminal
- C: 20~250Vac/Vdc, 50/60Hz ; Relay O/P - Euro terminal
- D: 20~250Vac/Vdc, 50/60Hz ; SSR(MOSFET) - Euro terminal
- E: 20~250Vac/Vdc, 50/60Hz ; Relay O/P\*2 - Euro terminal
- F: 20~250Vac/Vdc, 50/60Hz ; SSR(MOSFET)\*2 - Euro terminal

(Next page)

**Connection**

**13 14**

- Flange
- AK: JIS-FF
- AN: ANSI-RF
- AS: DIN-FF
- AI: 3A

**15 16**

- A8: 1"
- A9: 1-1/4"
- B1: 1-1/2"
- B2: 2"
- B4: 2-1/2"
- B5: 3"
- B7: 4"
- D8: DN25
- E1: DN40

**17 18**

- 01: PT male
- 03: PF male
- 07: NPT male
- 40: 5 kg/cm<sup>2</sup>
- 42: 10 kg/cm<sup>2</sup>
- 48: 150 Lbs
- 49: 300 Lbs
- 57: PN10
- 58: PN16











# MODEL NUMBER / ORDER CODE COMPARISON TABLE

## ORDERING INFORMATION

Model Number	Order Code
TX100R	TXX1017BB
TX101F	TXX1007BC

TXX 1 <sup>05</sup> <sup>06</sup> <sup>07</sup> <sup>08</sup> - <sup>09</sup> <sup>10</sup> <sup>11</sup> <sup>12</sup> <sup>13</sup>

**<sup>05</sup> <sup>06</sup> Model**

- 00: Standard(W45.2×H113.6×D99)
- 01: Economic(W22.6×H113.6×D99)

**<sup>07</sup> <sup>08</sup> Certification**

- 00: None
- 7B: NEPSI-Ex ia

**<sup>09</sup> Power supply**

- B: DC 20~35 Vdc
- C: AC 20~250 Vac

**<sup>10</sup> Input**

- A: 4~20mA
- B: 0~20mA

**<sup>11</sup> Output 1**

- A: 4~20 mA
- B: 0~20 mA
- C: 0~5 V
- D: 0~10 V

**<sup>12</sup> Output 2**

- 0: None
- A: RS485

**<sup>13</sup> Output 3**

- 0: None
- C: Relay