

# 2280 Tuning Forks



Type 2280 Tuning Forks are suitable for level detection of liquids or granular, powdered solids. Mounted on tanks filling / emptying can be controlled using these devices just as well they can generate fail-safe alarms providing overflow- or dry run protection.

The operation principle is based on the electronic circuit exciting the fork probe making it vibrate. As the medium reaches and covers the fork its vibration changes. The electronics senses the change of vibration and gives output signal after a selected delay.

## Features

- Maintenance free vibrating principle
- Independent of the liquid conductivity, dielectric constant, viscosity, pressure and temperature
- Selectable sensitivity
- Relay or electronic output
- Temperatures up to 130 degrees
- ATEX and WHG approvals
- IP67, 65/68 protection

## CE, WHG, ATEX

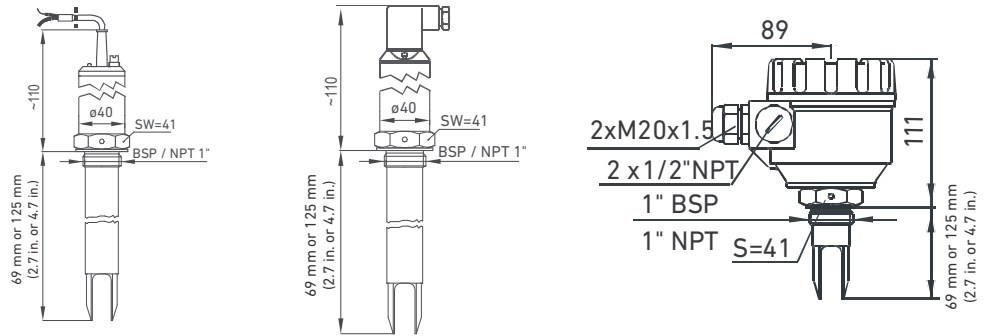
## Applications

- Potable Water
- River Water
- Cooling Water
- Demineralized Water
- Water/Glycol Solutions
- Chemicals



[www.gfps.com/level](http://www.gfps.com/level)

## Dimensions

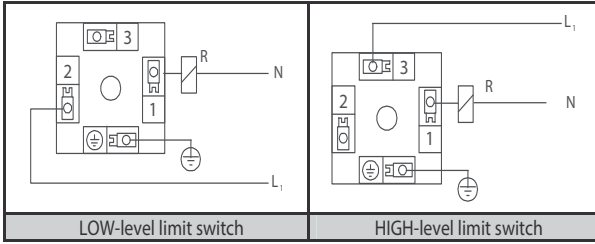


## Specifications

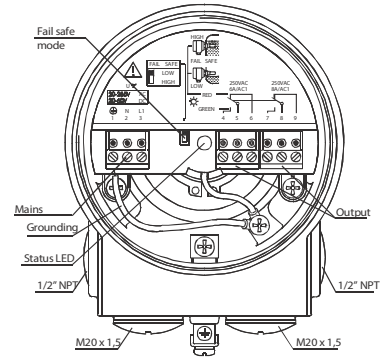
| General                     |   |               |                                    |
|-----------------------------|---|---------------|------------------------------------|
| Type                        | 2280-Y-YYYC-Y   | 2280-Y-YYYO-Y | 2280-Y-YYYT-Y                      |
| Probe Length                | 69 mm or 125 mm (2.7 in. or 4.9 in.)  |               |                                    |
| Operation mode indicator    | Bi-color LED  |               |                                    |
| Environmental               |   |               |                                    |
| Process Temperature         | -40 °C to +130 °C (-40 °F to +266 °F)                                       |               |                                    |
| Ambient Temperature         | -40 °C to +70 °C (-40 °F to +158 °F) / -30 °C to +70 °C (-22 °F to +158 °F) |               |                                    |
| Process Pressure (absolute) | 4 MPa (40 bar) 580 psi  |               |                                    |
| Min Medium Density          | ≥ 0.7 kg/dm <sup>3</sup>  |               |                                    |
| Max Medium Viscosity        | ≤ 10'000 mm <sup>2</sup> /s (cSt)   |               |                                    |
| Enclosure                   |   |               |                                    |
| Sensor                      | Stainless Steel DIN 1.4571  |               |                                    |
| Housing                     | Stainless Steel DIN 1.4571  |               | PBT                                |
| Ingress protection          | IP67  |               |                                    |
| Process Connection          | 1 " BSP / NPT   |               |                                    |
| Electrical                  |   |               |                                    |
| Switching Function          | 2-wire AC; 3-wire PNP-NPN   |               | 1 SPDT relay                       |
| Output Voltage / -Current   | AC 9 mA free, 14 mA immersed<br>3-wire max. 350mA, <4.5V (on)               |               | 250V AC, 8A AC1                    |
| Power Supply                | 12...55 V DC or 20  |               | 20 ... 255 V AC and 20 ... 60 V DC |
| Response Time               | ≤ 0.5 s   |               |                                    |
| Power Consumption           | 0.6 W   |               | AC: 1.2 ... 17 VA; DC: <3 W        |
| Connection                  | Cable PVC 5x0.5mm <sup>2</sup> , 3m   | DIN Connector | Terminal                           |
| Protection                  | Class III   |               | Class I                            |
| Standards and Approvals     |   |               |                                    |
| ATEX approval               | ATEX II 1 G Ex ia IIC T6, IP68  |               |                                    |
| General Approvals           | CE  |               |                                    |

# Wiring

## DIN Connector 3 Wire DC Version:

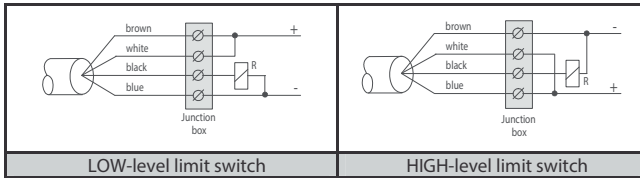


## PBT Enclosure Version:

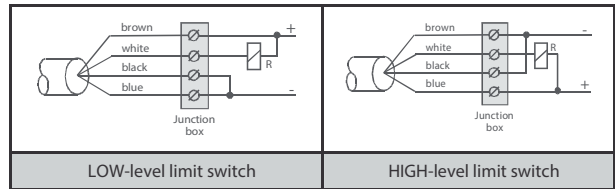


## DC Cable Version 3 Wire DC:

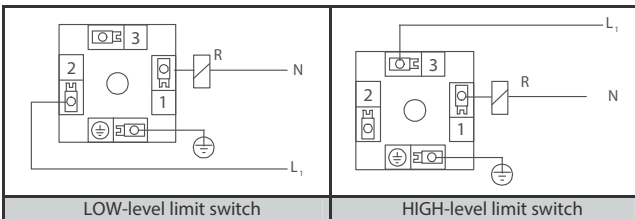
### PNP-wiring



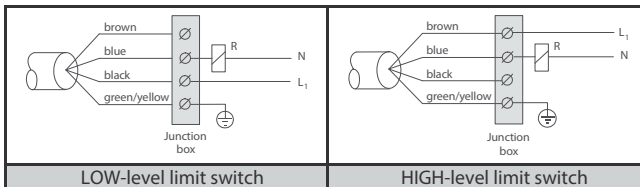
### NPN-wiring



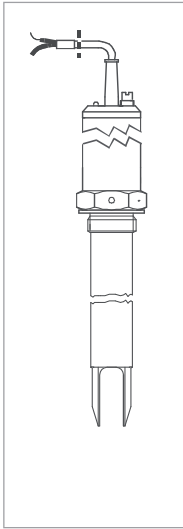
## DIN Connector 2 Wire AC Version:



## AC Cable Version 2 Wire AC:



## Ordering Information



| Mfr. Part No.  | Code               | Description  |
|----------------|--------------------|--|
| 2280-S-5WBO-1  | <b>159 300 200</b> | Length 69 mm (2.72 in.), Stainless Steel, Output 3-wire PNP-NPN, DIN connector, BSP thread   |
| 2280-S-5WBC-1  | <b>159 300 201</b> | Length 69 mm (2.72 in.), Stainless Steel, Output 3-wire PNP-NPN, cable, BSP thread           |
| 2280-S-5WBO-2  | <b>159 300 202</b> | Length 125 mm (4.92 in.), Stainless Steel, Output 3-wire PNP-NPN, DIN connector, BSP thread  |
| 2280-S-5WBC-2  | <b>159 300 203</b> | Length 125 mm (4.92 in.), Stainless Steel, Output 3-wire PNP-NPN, cable, BSP thread          |
| 2280-S-5XWBO-1 | <b>159 300 210</b> | Length 69 mm (2.72 in.), Stainless Steel, Output 2-wire AC, DIN connector, BSP thread, ATEX  |
| 2280-S-5XWBC-1 | <b>159 300 211</b> | Length 69 mm (2.72 in.), Stainless Steel, Output 2-wire AC, cable, BSP thread, ATEX          |
| 2280-S-5XWBO-2 | <b>159 300 212</b> | Length 125 mm (4.92 in.), Stainless Steel, Output 2-wire AC, DIN connector, BSP thread, ATEX |
| 2280-S-5XWBC-2 | <b>159 300 213</b> | Length 125 mm (4.92 in.), Stainless Steel, Output 2-wire AC, cable, BSP thread, ATEX         |
| 2280-S-5WNO-1  | <b>159 300 220</b> | Length 69 mm (2.72 in.), Stainless Steel, Output 3-wire PNP-NPN, DIN connector, NPT thread   |
| 2280-S-5WNC-1  | <b>159 300 221</b> | Length 69 mm (2.72 in.), Stainless Steel, Output 3-wire PNP-NPN, cable, NPT thread           |
| 2280-S-5WNO-2  | <b>159 300 222</b> | Length 125 mm (4.92 in.), Stainless Steel, Output 3-wire PNP-NPN, DIN connector, NPT thread  |
| 2280-S-5WNC-2  | <b>159 300 223</b> | Length 125 mm (4.92 in.), Stainless Steel, Output 3-wire PNP-NPN, cable, NPT thread          |
| 2280-S-5XWNO-1 | <b>159 300 230</b> | Length 69 mm (2.72 in.), Stainless Steel, Output 2-wire AC, DIN connector, NPT thread, ATEX  |
| 2280-S-5XWNC-1 | <b>159 300 231</b> | Length 69 mm (2.72 in.), Stainless Steel, Output 2-wire AC, cable, NPT Gewinde, ATEX         |
| 2280-S-5XWNO-2 | <b>159 300 232</b> | Length 125 mm (4.92 in.), Stainless Steel, Output 2-wire AC, DIN connector, NPT thread, ATEX |
| 2280-S-5XWNC-2 | <b>159 300 233</b> | Length 125 mm (4.92 in.), Stainless Steel, Output 2-wire AC, cable, NPT thread, ATEX         |
| 2280-S-5WBT-1  | <b>159 300 240</b> | Length 69 mm (2.72 in.), Stainless Steel, PBT enclosure, 1 SPDT relay, BSP thread            |
| 2280-S-5WBT-2  | <b>159 300 241</b> | Length 125 mm (4.92 in.), Stainless Steel, PBT enclosure, 1 SPDT relay, BSP thread           |
| 2280-S-5WNT-1  | <b>159 300 242</b> | Length 69 mm (2.72 in.), Stainless Steel, PBT enclosure, 1 SPDT relay, NPT thread            |
| 2280-S-5WNT-2  | <b>159 300 243</b> | Length 125 mm (4.92 in.), Stainless Steel, PBT enclosure, 1 SPDT relay, NPT thread           |