EN

# P1PL101C01

**Retro-Reflex Sensors**
**Retro-Reflex Sensors for Transparent Objects**




IO-Link

## Interface Description

Subject to change without notice
Available as PDF version only
Version: 1.0.0
Status: 25.09.2024
www.wenglor.com

# IO-Link P1PL101C01

## Vendor ID

| Product | hex | dec | hex (Bytes) | dec (Bytes) |
|---|---|---|---|---|
| wenglor sensoric GmbH | 0x0057 | 87 | 00 57 | 0 87 |

## Device ID

| Product | hex | dec | hex (Bytes) | dec (Bytes) |
|---|---|---|---|---|
| P1PL101C01 | 0x000062 | 98 | 00 00 62 | 0 0 98 |

| | |
|---|---|
| IO-Link Version: | V1.1 |
| Parameter Server / Data Storage: | No |
| Blockparameter: | No |
| MinCycletime: | 4.8 ms |
| SIO-Mode: | Yes |
| COM-Mode: | COM2 |
| ISDU: | No |

## Process data (Length: 16 Bit)

| Subindex | Name | Bit Offset | Data Type | Valid for versions | Range |
|---|---|---|---|---|---|
| 1 | A1 Output | 0 | Bool | all | 0 = off<br>1 = on |
| 2 | Signal Warning | 1 | Bool | all | 0 = off<br>1 = on |
| 3 | --- | 2 | --- | --- | --- |
| 4 | --- | 3 | --- | --- | --- |
| 5 | Short Circuit | 4 | Bool | all | 0 = off<br>1 = on |
| 6 | --- | 5 | --- | --- | --- |
| 7 | Overtemperature | 6 | Bool | all | 0 = off<br>1 = on |
| 8 | Memory Busy | 7 | Bool | all | 0 = off<br>1 = on |
| 9 | Signal | 8 | Uint8 | all | 0...255 |

## Octet 0

| Subindex | 9 | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Bit Offset | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 |

## Octet 1

| Subindex | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
|---|---|---|---|---|---|---|---|---|
| Bit Offset | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |

## Parameter

| Name | Index (hex) | Index (dec) | Sub-index | R/W | Data type | Valid for versions | Default value | Range |
|---|---|---|---|---|---|---|---|---|
| Identification | | | | | | | | |
| Parameter.Serial number | 0x0001 | **1** | 12...15 | R | Uint32 | all | - | - |
| Direct Parameters 1.Vendor ID 1 | 0x0000 | **0** | 8 | R | Uint8 | all | 0 | - |
| Direct Parameters 1.Vendor ID 2 | 0x0000 | **0** | 9 | R | Uint8 | all | 87 | - |
| Direct Parameters 1.Device ID1 | 0x0000 | **0** | 10 | R | Uint8 | all | - | - |
| Direct Parameters 1.Device ID2 | 0x0000 | **0** | 11 | R | Uint8 | all | - | - |
| Direct Parameters 1.Device ID3 | 0x0000 | **0** | 12 | R | Uint8 | all | - | - |
| Parameter | | | | | | | | |
| Write parameters to OTP memory | 0x0001 | **1** | 16 | R/W | Uint8 | all | 0 = no action | 0 = no action<br>148 = write parameters |
| Counter OTP memory | 0x0001 | **1** | 5 | R | Uint8 | all | 0 | 0…255 |
| OFF Delay | 0x0001 | **1** | 4 (Bit0...2) | R/W | Uint3 | all | 0 = off | 0 = off<br>1 = 2 ms<br>2 = 5 ms<br>3 = 10 ms<br>4 = 20 ms<br>5 = 50 ms<br>6 = 100 ms<br>7 = 200 ms |
| ON Delay | 0x0001 | **1** | 4 (Bit3...5) | R/W | Uint3 | all | 0 = off | 0 = off<br>1 = 2 ms<br>2 = 5 ms<br>3 = 10 ms<br>4 = 20 ms<br>5 = 50 ms<br>6 = 100 ms<br>7 = 200 ms |
| Operating Mode | 0x0001 | **1** | 4 (Bit7) | R/W | Boolean | all | 0 = Standard | 0 = Standard<br>1 = Speed |
| Switch Point | 0x0001 | **1** | 3 | R/W | Uint8 | all | 250 | 0…250 |
| A1 NO/NC | 0x0001 | **1** | 2 (Bit0) | R/W | Boolean | all | 0 = NO | 0 = NO<br>1 = NC |
| A2 Pin Function | 0x0001 | **1** | 2 (Bit1...2) | R/W | Uint2 | all | 0 = Antivalent Switching Output | 0 = Antivalent Switching Output<br>1 = Error Output (NO)<br>2 = Error Output (NC)<br>3 = deactivated |
| PNP/NPN | 0x0001 | **1** | 2 (Bit3...4) | R/W | Uint2 | all | 0 = Push-Pull | 0 = Push-Pull<br>1 = PNP<br>2 = NPN<br>3 = deactivated |
| Source SwitchPoint | 0x0001 | **1** | 2 (Bit5) | R/W | Boolean | all | 0 = Potentiometer | 0 = Potentiometer<br>1 = IO-Link |
| Hysteresis | 0x0001 | **1** | 2 (Bit6) | R/W | Boolean | all | 0 = small | 0 = small<br>1 = large |
| Emitted Light | 0x0001 | **1** | 2 (Bit7) | R/W | Boolean | all | 0 = on | 0 = on<br>1 = off |

## Notes for the use of the IODD

**RAM-memory**
The changed parameters are stored in the volatile memory of the sensor. This could be used for testing and if the configuration of the sensor changes often (e. g. for different production batches).

**Changes have the following effects:**
• Sensor behavior is adjusted immediately without a restart according to the changed parameter.
• In case of a sensor restart (e. g. by turning power off and on) the settings are lost.
• Changes have no effects on the OTP-memory of the sensor.

**OTP-memory**
By writing the parameters, they are stored in the non-volatile memory. At every start-up the OTP parameters are loaded to the RAM of the sensor. The OTP-memory has limited write cycles. The wenglor sensoric GmbH can guarantee at least 240 writes to the OTP-memory at delivery.
The current number of writes is readable from the parameter “Counter OTP memory”.

**Procedure to save parameters in the OTP-memory of the sensor:**
1. Test the sensor settings within the application until the desired configuration is clear.
2. Set the parameter “Write parameters to OTP memory” to “write parameters” and send it to the sensor.
3. The configuration is applied directly, and after a restart it is loaded from the OTP-memory.
4. New configuration is stored in the sensors RAM and OTP-memory.