



**Model Number**

**UC400-F77-EP-IO-V31**

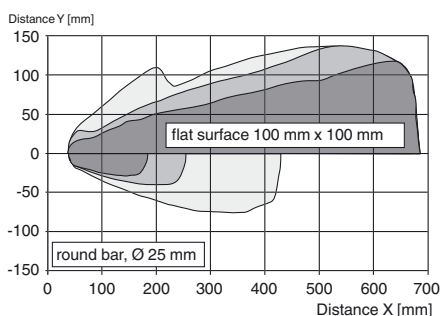
Single head system

**Features**

- IO-link interface for service and process data
- Programmable via DTM with PACTWARE
- Continuous distance value via IO-Link process data
- Selectable sound lobe width
- Synchronization options
- Temperature compensation
- Push-pull output

**Diagrams**

**Characteristic response curve**



**Technical data**

**General specifications**

Sensing range	30 ... 400 mm
Adjustment range	40 ... 400 mm
Dead band	0 ... 30 mm
Standard target plate	20 mm x 20 mm
Transducer frequency	approx. 310 kHz
Response delay	minimum : 10 ms factory setting: 37 ms
Sensor cycle time	≥ 10 ms (factory setting) ; programmable to 60 s

**Memory**

Non-volatile memory	EEPROM
Write cycles	300000

**Indicators/operating means**

LED green	solid: Power on flashing: Standby mode or IO-Link communication
LED yellow	solid: object in evaluation range flashing: switch point programming, object detected
LED red	solid: error flashing: switch point programming, object not detected

**Electrical specifications**

Operating voltage $U_B$	10 ... 30 V DC , ripple 10 % <sub>SS</sub>
No-load supply current $I_0$	≤ 40 mA
Power consumption $P_0$	≤ 400 mW
Time delay before availability $t_v$	≤ 300 ms

**Interface**

Interface type	IO-Link (via C/Q = Pin 4)
Device profile	Smart Sensor
Transfer rate	COM 2 (38.4 kBaud)
IO-Link Revision	1.1
Min. cycle time	2.3 ms
Process data width	16 bit
SIO mode support	yes
Device ID	0x300301 (3146497)
Compatible master port type	A

**Input/Output**

Input/output type	1 synchronization connection, bidirectional
0 Level	0 ... 1 V
1 Level	2.5 V ... $U_B$
Input impedance	> 22 kΩ
Output rated operating current	current source < 2.5 mA
Pulse length	≥ 1 ms with external control, low active
Synchronization frequency	
Common mode operation	≤ 109 Hz
Multiplex operation	≤ 109 Hz / n , n = number of sensors , n ≤ 10

**Output**

Output type	1 push-pull (4 in 1) output, short-circuit protected, reverse polarity protected
Rated operating current $I_e$	100 mA , short-circuit/overload protected
Voltage drop $U_d$	≤ 2.5 V
Repeat accuracy	≤ ± 0.1 % of full-scale value
Switching frequency f	factory setting: 16 Hz programmable max. 35 Hz
Range hysteresis H	1 % of the adjusted operating range (default settings), programmable , min. 1 mm
Temperature influence	≤ ± 0.75 % of the end value (with temperature compensation) from 10 minutes after switching on the sensor ; 0,17 %/K (without temperature compensation)

**Ambient conditions**

Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
Storage temperature	-40 ... 85 °C (-40 ... 185 °F)

**Mechanical specifications**

Connection type	Connector plug M8 x 1 , 4-pin
Degree of protection	IP67
Material	
Housing	Polycarbonate
Transducer	epoxy resin/hollow glass sphere mixture; polyurethane foam
Installation position	any position
Mass	9 g
Tightening torque, fastening screws	max. 0.2 Nm

**Factory settings**

Output	near switch point: 40 mm far switch point: 400 mm Output mode: Window mode Output logic: normally open
Beam width	wide

**Compliance with standards and directives**

Standard conformity	
Standards	EN 60947-5-2:2007+A1:2012 IEC 60947-5-2:2007 + A1:2012 IEC 61131-9:2013

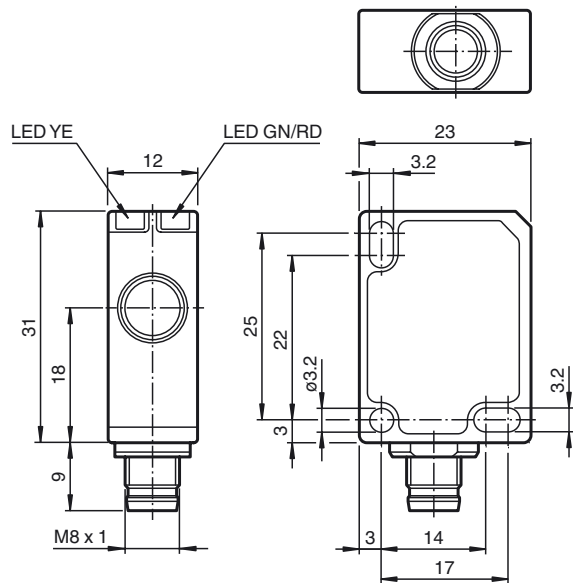
Release date: 2018-04-18 13:58 Date of issue: 2018-04-18 261243\_eng.xml

**Approvals and certificates**

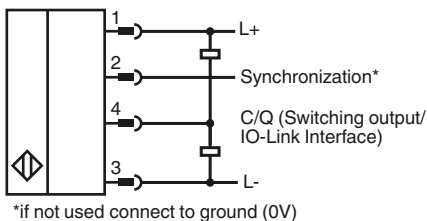
UL approval  
CCC approval

cULus Listed, Class 2 Power Source  
CCC approval / marking not required for products rated  $\leq 36$  V

**Dimensions**



**Electrical Connection**



**Pinout**

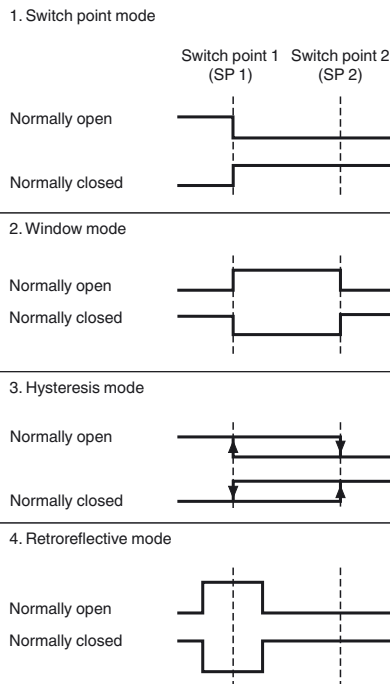


Wire colors in accordance with EN 60947-5-2

1		BN (brown)
2		WH (white)
3		BU (blue)
4		BK (black)

**Additional Information**

**Switching output modes**



## Accessories

### IO-Link-Master02-USB

IO-Link master, supply via USB port or separate power supply, LED indicators, M12 plug for sensor connection

### V31-GM-2M-PVC

Female cordset, M8, 4-pin, PVC cable

### V31-GM-1M-PVC-V1-G

Double-ended cordset, M8 to M12

### OMH-ML7-01

Mounting aid for ML7 and ML8 series, Mounting bracket

### OMH-ML7-02

Mounting aid for ML7 and ML8 series, Mounting bracket

## Description of Sensor Functions

### Adjustment possibilities

The sensor features a switching output with 2 programmable switch points. Programming the switch points, the output mode, the output logic and the beam width can be done in two different ways:

- Using the sensor's programming button
- Using the IO-link interface of the sensor. This method requires an IO-link master (e.g. IO-link-Master02-USB) and the associated software. The download link is available on the product page for the sensor at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com).

### Synchronization

The sensor features a synchronization input for suppressing ultrasonic mutual interference („cross talk“).

The following synchronization modes are available:

1. Automatic multiplex mode.
2. Automatic common mode
3. Externally controlled synchronization

### Further Documentation

- For information on programming via programming button and synchronisation you may refer to the commissioning instruction.
- For detailed information on application and programming via IO-Link we provide a manual.