

# Q2XABFF15-Q

## Photoelectric Sensor – Diffuse-Mode Sensor with Fixed Background Suppression

### Technical data

|                                  |                                                             |
|----------------------------------|-------------------------------------------------------------|
| Type                             | Q2XABFF15-Q                                                 |
| ID                               | 3814140                                                     |
| Optical data                     |                                                             |
| Function                         | Diffuse mode sensor with fixed-field background suppression |
| Light type                       | Red                                                         |
| Wavelength                       | 645 nm                                                      |
| Range                            | 0...15 mm                                                   |
| Electrical data                  |                                                             |
| Operating voltage $U_B$          | 10...30 VDC                                                 |
| Residual ripple                  | < 10 % $U_{ss}$                                             |
| DC rated operating current $I_e$ | ≤ 16 mA                                                     |
| Reverse polarity protection      | yes                                                         |
| Output function                  | PNP/NPN                                                     |
| Readiness delay                  | ≤ 120 ms                                                    |
| Response time typical            | < 0.85 ms                                                   |
| Setting option                   | Potentiometer                                               |
| Mechanical data                  |                                                             |
| Design                           | Rectangular, Q2X                                            |
| Dimensions                       | 14 x 31 mm                                                  |
| Housing material                 | Plastic, PC<br>ABS                                          |
| Lens                             | acrylic, Acrylic                                            |
| Electrical connection            | Cable with connector, M8 × 1, PVC                           |
| Number of cores                  | 4                                                           |
| Ambient temperature              | -25...+50 °C                                                |
| Relative humidity                | 0...95 %                                                    |
| Protection class                 | IP67                                                        |
| Special features                 | Miniature<br>Crosstalk protection                           |
| Power-on indication              | LED, Green                                                  |
| Switching state                  | LED, Yellow                                                 |
| Excess gain indication           | LED, yellow, flashing                                       |
| Tests/approvals                  |                                                             |
| Approvals                        | CE, cURus                                                   |

### Features

- Miniature sensor with slim housing for confined spaces
- Protection class IP67
- Connection via 150-mm PVC cable with M8 × 1 male connector, 4-pin
- LED, all-round visible
- Adjusted via potentiometer
- Switching output, bipolar, light operation

### Wiring diagram



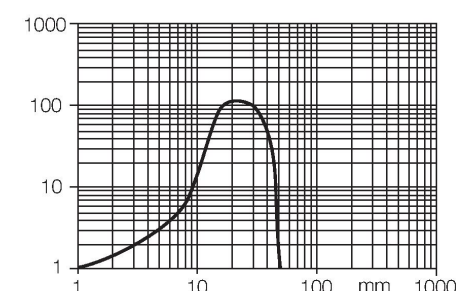
### Functional principle

Diffuse-mode sensors with background suppression operate with a single emitter and several receiver elements. The position of the object to be detected and the optical structure of the sensor dictate which receiver element gets the most light. The sensor electronics determine whether the reflecting object is within or outside the detection range. These sensors come with a fixed cut-off point.

### Excess gain curve

Excess gain in relation to range

### Excess Gain Curve



Accessories

|                                                                               |         |                                                                                                 |         |
|-------------------------------------------------------------------------------|---------|-------------------------------------------------------------------------------------------------|---------|
| SMBQ2XB                                                                       | 3812494 | SMBQ2XA                                                                                         | 3812493 |
| Mounting bracket, stainless steel, for Q2X design, L-shaped for wall mounting |         | Mounting bracket, stainless steel, for Q2X design, L-shaped for mounting on horizontal surfaces |         |