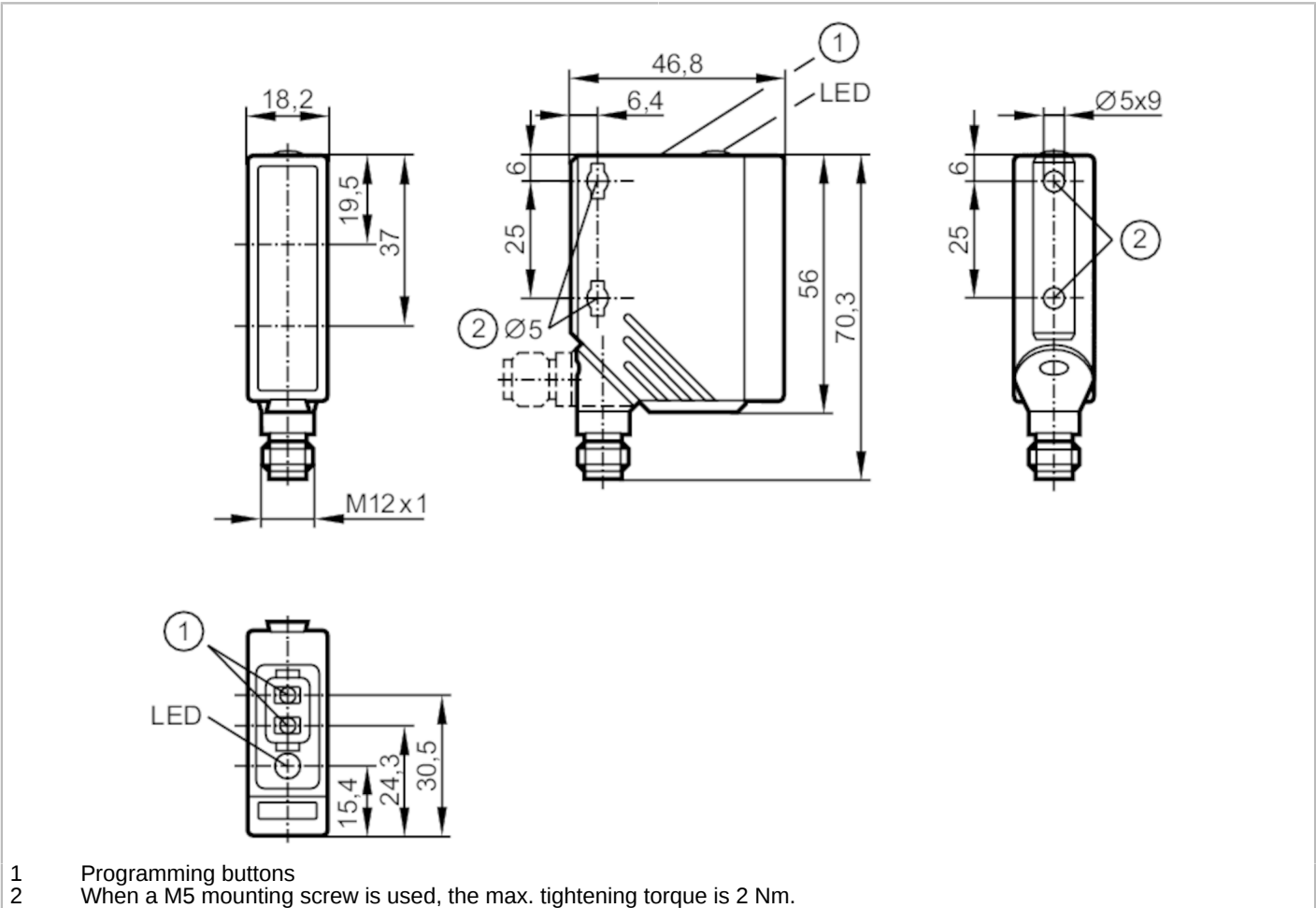


# O5H504



## Diffuse reflection sensors with background suppression

O5H-FNKG/US100



| Product characteristics               |      |                                       |
|---------------------------------------|------|---------------------------------------|
| Type of light                         |      | red light                             |
| Housing                               |      | rectangular                           |
| Application                           |      |                                       |
| System                                |      | Background suppression                |
| Function principle                    |      | Diffuse reflection sensor             |
| Electrical data                       |      |                                       |
| Operating voltage                     | [V]  | 10...36 DC                            |
| Current consumption                   | [mA] | 25                                    |
| Protection class                      |      | II                                    |
| Reverse polarity protection           |      | yes                                   |
| Type of light                         |      | red light                             |
| Wave length                           | [nm] | 624                                   |
| Outputs                               |      |                                       |
| Electrical design                     |      | NPN                                   |
| Output function                       |      | light-on/dark-on mode; (programmable) |
| Max. voltage drop switching output DC | [V]  | 2.5                                   |



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O5H-FNKG/US100

|                                                 |                  |                                                                                   |
|-------------------------------------------------|------------------|-----------------------------------------------------------------------------------|
| Permanent current rating of switching output DC | [mA]             | 200                                                                               |
| Switching frequency DC                          | [Hz]             | 1000                                                                              |
| Short-circuit protection                        |                  | yes                                                                               |
| Type of short-circuit protection                |                  | yes (non-latching)                                                                |
| Overload protection                             |                  | yes                                                                               |
| <b>Monitoring range</b>                         |                  |                                                                                   |
| Range                                           | [mm]             | 50...1800; (white paper 200 x 200 mm 90 % remission)                              |
| Range on white object (90 % remission)          | [mm]             | 50...1800                                                                         |
| Range on grey object (18 % remission)           | [mm]             | 50...900                                                                          |
| Range on black object (6 % remission)           | [mm]             | 50...600                                                                          |
| Range adjustable                                |                  | yes                                                                               |
| Max. light spot diameter                        | [mm]             | 50                                                                                |
| Light spot dimensions refer to                  |                  | Range                                                                             |
| Background suppression available                |                  | yes                                                                               |
| <b>Operating conditions</b>                     |                  |                                                                                   |
| Ambient temperature                             | [°C]             | -25...60                                                                          |
| Protection                                      |                  | IP 67                                                                             |
| <b>Tests / approvals</b>                        |                  |                                                                                   |
| EMC                                             |                  | EN 60947-5-2                                                                      |
| MTTF                                            | [years]          | 341                                                                               |
| <b>Mechanical data</b>                          |                  |                                                                                   |
| Weight                                          | [g]              | 67.5                                                                              |
| Housing                                         |                  | rectangular                                                                       |
| Dimensions                                      | [mm]             | 56 x 18.2 x 46.8                                                                  |
| Material                                        |                  | housing: PA; Front framework: stainless steel; operator interface: TPU (urethane) |
| Lens material                                   |                  | PMMA                                                                              |
| Lens alignment                                  |                  | Side sensing                                                                      |
| <b>Displays / operating elements</b>            |                  |                                                                                   |
| Display                                         | Switching status | 1 x LED, yellow                                                                   |
| Teach function                                  |                  | yes                                                                               |
| Electronic lock                                 |                  | yes                                                                               |
| <b>Remarks</b>                                  |                  |                                                                                   |
| Remarks                                         |                  | cULus - Class 2 source required                                                   |
| Pack quantity                                   |                  | 1 pcs.                                                                            |



## Diffuse reflection sensors with background suppression

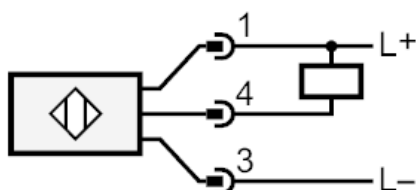
O5H-FNKG/US100

### Electrical connection

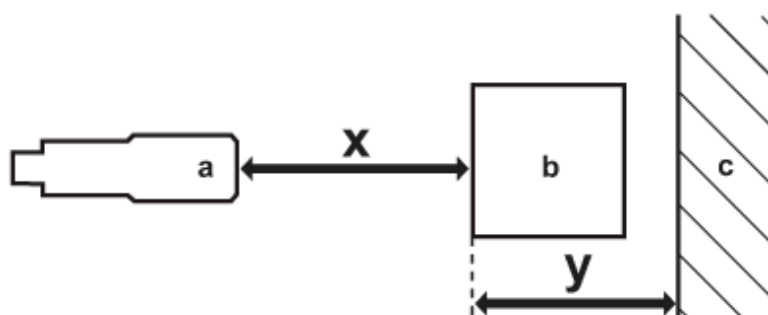
Connector: 1 x M12; coding: A



### Connection



### Diagrams and graphs



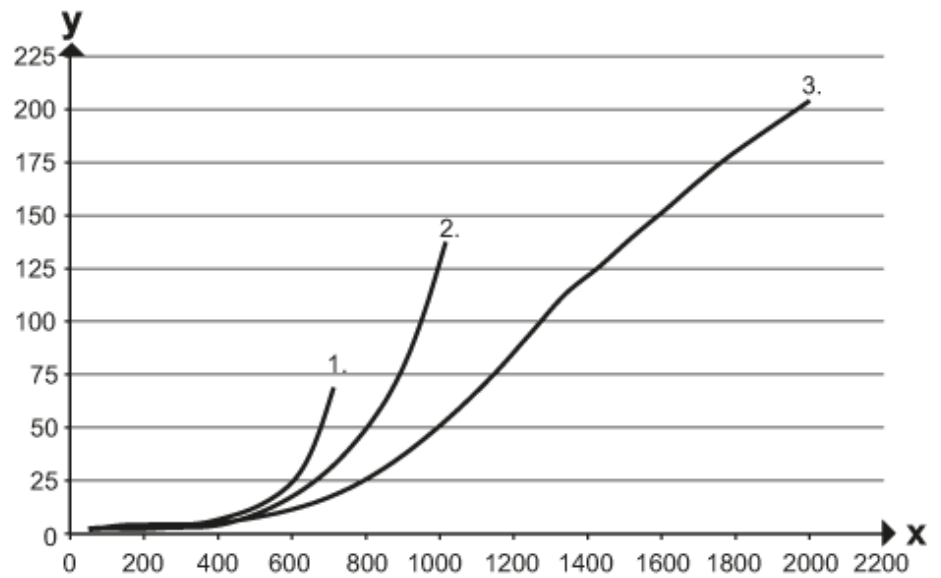
- a: sensor
- b: object
- c: background
- x: distance sensor/object [mm]
- y: min. distance object/background [mm]



## Diffuse reflection sensors with background suppression

O5H-FNKG/US100

Background suppression chart



x: distance sensor/object [mm]

y: min. distance object/background [mm]

1 = object black (6 % remission) , Background white (90 % remission)

2 = object grey (18 % remission) , Background white (90 % remission)

3 = object white (90 % remission) , Background white (90 % remission)