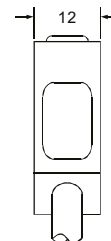
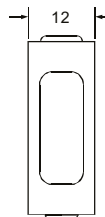
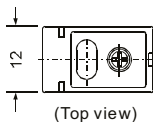
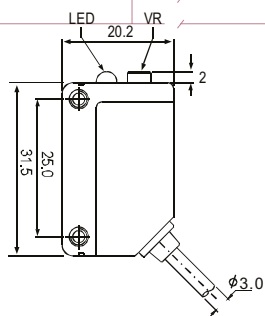


Cable Version

| Type | Diffuse mode | | | Retro-reflective mode | Retro-reflective mode (with polarizing filter) | Retro-reflective mode (For transparent) | Through-beam mode | | |
|-----------------------------------|------------------------------|--------------|-------|------------------------------|---|--|------------------------------|----------------|---|
| | | | | | | | | | |
| Switching distance(sn) | 110mm | 350mm | 800mm | 0.1~4m | 0.1~2m | 0.1-0.7m | 5m | 10m | |
| Picture | | | | | | | | | |
| Nominal Voltage | 10-30VDC | | | 10-30VDC | 10-30VDC | 10-30VDC | 10-30VDC | | |
| Residual Ripple | ≤10% | | | ≤10% | ≤10% | ≤10% | ≤10% | | |
| Tolerance | ±10%Sn | | | ±10%Sn | ±10%Sn | ±10%Sn | ±10%Sn | | |
| Hysteresis | 15% | | | 15% | 15% | 15% | 15% | | |
| Emission | Infrared(880 ^{nm}) | | | Infrared(880 ^{nm}) | Red(660 ^{nm}) | Infrared(880 ^{nm}) | Infrared(880 ^{nm}) | | |
| Output | NO-NC NPN or PNP | | | NO-NC NPN or PNP | NO-NC NPN or PNP | NO-NC NPN or PNP | NO-NC NPN or PNP | | |
| Max. Output Current | 100mA | | | 100mA | 100mA | 100mA | 100mA | | |
| Absorption At 30VDC | <35mA | | | <35mA | <35mA | <35mA | <35mA | | |
| Voltage Drop(Sensor On) | ≤2.0V(I=100mA) | | | ≤2.0V(I=100mA) | ≤2.0V(I=100mA) | ≤2.0V(I=100mA) | ≤2.0V(I=100mA) | | |
| Yellow LED | Output indicator | | | Output indicator | Output indicator | Output indicator | Output indicator | | |
| Green LED | Supply indicator | | | Supply indicator | Supply indicator | Supply indicator | Supply indicator | | |
| Sensitivity Adjustment | Trimmer 1 tum | | | Trimmer 1 tum | Trimmer 1 tum | Trimmer 1 tum | Trimmer 1 tum | | |
| Switching Frequency | 500 Hz | | | 500 Hz | 500 Hz | 500 Hz | 500 Hz | | |
| Response Time | 1mS | | | 1mS | 1mS | 1mS | 1mS | | |
| Start Up Delay | <300mS | | | <300mS | <300mS | <300mS | <300mS | | |
| Short Circuit Protection | Yes | | | Yes | Yes | Yes | Yes | | |
| Reverse Polarity Protection | Yes | | | Yes | Yes | Yes | Yes | | |
| Temperature Limits | -25 ~ +55℃ | | | -25 ~ +55℃ | -25 ~ +55℃ | -25 ~ +55℃ | -25 ~ +55℃ | | |
| Light Immunity | >5,000Lux | | | >5,000Lux | >5,000Lux | >5,000Lux | >5,000Lux | | |
| Protection Degree | IP67 | | | IP67 | IP67 | IP67 | IP67 | | |
| Cable Length | 2m φ3mm Cable | | | 2m φ3mm Cable | 2m φ3mm Cable | 2m φ3mm Cable | 2m φ3mm Cable | | |
| Connect | M8 Connector (4 poles) | | | M8 Connector (4 poles) | M8 Connector (4 poles) | M8 Connector (4 poles) | M8 Connector (4 poles) | | |
| Reflectors type | - | | | - | D51 | D51 | - | | |
| Housing Material | ABS | | | ABS | ABS | ABS | ABS | | |
| Determined with a white mat paper | 200x200mm | | | - | - | - | - | | |
| Weight-cable output-(connector) | -40g(-10g) | | | -40g(-10g) | -40g(-10g) | -40g(-10g) | -40g(-10g) | | |
| Wiring diagram number | | | | | | | | | |
| Diffuse mode: | | | | | | | | | |
| PNP output | Sn=110mm | LP-D1PS-C31E | 1 | | | | | | |
| | Sn=350mm | LP-D2PS-C31E | 1 | | | | | | |
| | Sn=800mm | LP-D3PS-C31E | 1 | | | | | | |
| NPN output | Sn=110mm | LP-D1NS-C31E | 2 | | | | | | |
| | Sn=350mm | LP-D2NS-C31E | 2 | | | | | | |
| | Sn=800mm | LP-D3NS-C31E | 2 | | | | | | |
| Retro-reflective mode: | | | | | | | | | |
| PNP output | Sn=4m | LP-R1PS-C31E | 1 | | LP-R2PS-C31E | 1 | | | |
| | Sn=2m | | | | | | LP-R3PS-C31E | 1 | |
| | Sn=0.1-0.7m | | | | | | | | |
| NPN output | Sn=4m | LP-R1NS-C31E | 2 | | LP-R2NS-C31E | 2 | | | |
| | Sn=2m | | | | | | LP-R3NS-C31E | 2 | |
| | Sn=0.1-0.7m | | | | | | | | |
| Through-beam mode: | | | | | | | | | |
| | Emitter: | | | | | | | LP-T1-C31E-E | 3 |
| PNP output | Receiver(5m): | | | | | | | LP-T1PS-C31E-R | 1 |
| NPN output | Receiver(5m): | | | | | | | LP-T1NS-C31E-R | 2 |
| | Emitter: | | | | | | | LP-T2-C31E-E | 3 |
| PNP output | Receiver(10m): | | | | | | | LP-T2PS-C31E-R | 1 |
| NPN output | Receiver(10m): | | | | | | | LP-T2NS-C31E-R | 2 |



Connector Version

| Type | Diffuse mode | | | Retro-reflective mode | Retro-reflective mode (with polarizing filter) | Retro-reflective mode (For transparency) | Through-beam mode | |
|-----------------------------------|------------------------|---------------|-------|------------------------|---|---|------------------------|-------------------|
| | | | | | | | | |
| Switching distance(sn) | 110mm | 350mm | 800mm | 0.1~4m | 0.1~2m | 0.1-0.7m | 5m | 10m |
| Picture | | | | | | | | |
| Nominal Voltage | 10-30VDC | | | 10-30VDC | 10-30VDC | 10-30VDC | 10-30VDC | |
| Residual Ripple | ≤10% | | | ≤10% | ≤10% | ≤10% | ≤10% | |
| Tolerance | ±10%Sn | | | ±10%Sn | ±10%Sn | ±10%Sn | ±10%Sn | |
| Hysteresis | 15% | | | 15% | 15% | 15% | 15% | |
| Emission | Infrared(880nm) | | | Infrared(880nm) | Red(660nm) | Infrared(880nm) | Infrared(880nm) | |
| Output | NO-NC NPN or PNP | | | NO-NC NPN or PNP | NO-NC NPN or PNP | NO-NC NPN or PNP | NO-NC NPN or PNP | |
| Max. Output Current | 100mA | | | 100mA | 100mA | 100mA | 100mA | |
| Absorption At 30VDC | <35mA | | | <35mA | <35mA | <35mA | <35mA | |
| Voltage Drop(Sensor On) | ≤2.0V(I=100mA) | | | ≤2.0V(I=100mA) | ≤2.0V(I=100mA) | ≤2.0V(I=100mA) | ≤2.0V(I=100mA) | |
| Yellow LED | Output indicator | | | Output indicator | Output indicator | Output indicator | Output indicator | |
| Green LED | Supply indicator | | | Supply indicator | Supply indicator | Supply indicator | Supply indicator | |
| Sensitivity Adjustment | Trimmer 1 tum | | | Trimmer 1 tum | Trimmer 1 tum | Trimmer 1 tum | Trimmer 1 tum | |
| Switching Frequency | 500 Hz | | | 500 Hz | 500 Hz | 500 Hz | 500 Hz | |
| Response Time | 1mS | | | 1mS | 1mS | 1mS | 1mS | |
| Start Up Delay | <300mS | | | <300mS | <300mS | <300mS | <300mS | |
| Short Circuit Protection | Yes | | | Yes | Yes | Yes | Yes | |
| Reverse Polarity Protection | Yes | | | Yes | Yes | Yes | Yes | |
| Temperature Limits | -25 ~ +55℃ | | | -25 ~ +55℃ | -25 ~ +55℃ | -25 ~ +55℃ | -25 ~ +55℃ | |
| Light Immunity | >5.000Lux | | | >5.000Lux | >5.000Lux | >5.000Lux | >5.000Lux | |
| Protection Degree | IP67 | | | IP67 | IP67 | IP67 | IP67 | |
| Cable Length | - | | | - | - | - | - | |
| Connect | M8 Connector (4 poles) | | | M8 Connector (4 poles) | M8 Connector (4 poles) | M8 Connector (4 poles) | M8 Connector (4 poles) | |
| Reflectors type | - | | | D51 | D51 | D51 | - | |
| Housing Material | ABS | | | ABS | ABS | ABS | ABS | |
| Determined with a white mat paper | 200x200mm | | | - | - | - | - | |
| Weight-cable output-(connector) | -40g-(10g) | | | -40g-(10g) | -40g-(10g) | -40g-(10g) | -40g-(10g) | |
| Wiring diagram number | | | | | | | | |
| Diffuse mode: | | | | | | | | |
| PNP output | Sn=110mm | LP-D1PS-C31F1 | 4 | | | | | |
| | Sn=350mm | LP-D2PS-C31F1 | 4 | | | | | |
| | Sn=800mm | LP-D3PS-C31F1 | 4 | | | | | |
| NPN output | Sn=110mm | LP-D1NS-C31F1 | 4 | | | | | |
| | Sn=350mm | LP-D2NS-C31F1 | 4 | | | | | |
| | Sn=800mm | LP-D3NS-C31F1 | 4 | | | | | |
| Retro-reflective mode: | | | | | | | | |
| PNP output | Sn=4m | | | LP-R1PS-C31F1 | 4 | | | |
| | Sn=2m | | | | | LP-R2PS-C31F1 | 4 | |
| | Sn=0.1-0.7m | | | | | | | LP-R3PS-C31F1 4 |
| NPN output | Sn=4m | | | LP-R1NS-C31F1 | 4 | | | |
| | Sn=2m | | | | | LP-R2NS-C31F1 | 4 | |
| | Sn=0.1-0.7m | | | | | | | LP-R3NS-C31F1 4 |
| Through-beam mode: | | | | | | | | |
| PNP output | Emitter: | | | | | | | LP-T1-C31F1-E 4 |
| PNP output | Receiver(5m): | | | | | | | LP-T1PS-C31F1-R 4 |
| NPN output | Receiver(5m): | | | | | | | LP-T1NS-C31F1-R 4 |
| PNP output | Emitter: | | | | | | | LP-T2-C31F1-E 4 |
| PNP output | Receiver(10m): | | | | | | | LP-T2PS-C31F1-R 4 |
| NPN output | Receiver(10m): | | | | | | | LP-T2NS-C31F1-R 4 |

