

Leuze 49C Series Rectangular Plastic Photoelectric Sensors



HT49CI.UC/TS-TB

Overview

The Leuze 49C Series Photoelectric Sensors are designed for highly reliable object detection at large operating ranges and in harsh industrial environments. Available in diffuse with background suppression, polarized retroreflective, and through-beam configurations, the series delivers robust performance across a wide range of applications with optimized beam geometry, clearly visible status indicators, and straightforward alignment and wiring. Built for demanding conditions, 49C series sensors feature IP67 ingress protection, broad supply voltage compatibility, and options such as integrated optics heating for outdoor or condensation-prone environments.

Features

- Diffuse with background suppression, polarized retroreflective, and through-beam models available
- Models available with 20–250 VAC/VDC or 10–30 VDC operating voltage
- Complete overload protection
- IP67 rated
- M12 quick-disconnect (purchase cable separately), pigtail, and terminal chamber models
- 2-year warranty



Rectangular Plastic Photoelectric Sensors

Part Number	Price	Sensing Method	User Interface	Light Emission	Sensing Range	Operation Mode	Switching Output	Connection	Wiring	Drawing Link
HT49CI.UC/TS	\$111.00	Diffuse Background suppression	Pushbutton Potentiometer	Infrared	3m [9.84ft]	Complementary light-on/dark-on	AC/DC SPDT EM relay	5-wire, Pigtail, 6.5ft/2m	Diagram B	PDF
HT49CI.UC/TS-TB	\$111.00							5-wire, Terminal chamber	Diagram A	PDF
HT49C.UC/TS	\$111.00			Visible red				5-wire, Pigtail, 6.5ft/2m	Diagram B	PDF
HT49CI.UCH/TS-TB	\$116.00			Infrared with heated lens				5-wire, Terminal chamber	Diagram A	PDF
HT49C.UCH/TS-TB	\$116.00			Visible red		Selectable light-on/dark-on	DC PNP	4-pin M12 quick-disconnect	Diagram C	PDF
HT49CI/4X-M12	\$65.00			Infrared						PDF
HT49CI.H/4X-M12	\$86.00			Infrared with heated lens						PDF
PRK49C.UC1/TS	\$104.00	Polarized retroreflective	Pushbutton Potentiometer	Visible red	24m [78.74ft]	Complementary light-on/dark-on	AC/DC SPDT EM relay	5-wire, Pigtail, 6.5ft/2m	Diagram B	PDF
PRK49C.UC1/TS-TB	\$98.00							5-wire, Terminal chamber	Diagram A	PDF
PRK49C.UCH/TS-TB	\$98.00		—	Visible red with heated lens				5-wire, Pigtail, 6.5ft/2m	Diagram B	PDF
PRK49C.UCD1/TS	\$106.00		Pushbutton Potentiometer	Visible red	16m [52.49ft]			5-wire, Terminal chamber	Diagram A	PDF
PRK49C.UCD1/TS-TB	\$101.00				24m [78.74ft]	Selectable light-on/dark-on	DC PNP	4-pin M12 quick-disconnect	Diagram C	PDF
PRK49C.1/4X-M12	\$68.00									
LS49C.UC	\$62.00	Through-beam emitter		Visible red	120m [393.70ft]	—	—	2-wire, Pigtail, 6.5ft/2m	Diagram E	PDF
LS49C.UCH/TB	\$65.00			Visible red with heated lens				2-wire, Terminal chamber	Diagram D	PDF
LS49C.UC-TB	\$57.00			Visible red						PDF
LE49C.UC/TS	\$77.00	Through-beam receiver	—	—		Complementary light-on/dark-on	AC/DC SPDT EM relay	5-wire, Pigtail, 6.5ft/2m	Diagram B	PDF
LE49C.UC/TS-TB	\$71.00			—				5-wire, Terminal chamber	Diagram A	PDF
LE49C.UCH/TS-TB	\$79.00			Heated lens						PDF
LS49CI-M12 *	\$56.00	Through-beam emitter		Infrared		—	—	4-pin M12 quick-disconnect	Diagram F	PDF
LE49CI.1/4X-M12 *	\$64.00	Through-beam receiver	Pushbutton Potentiometer	—		Selectable light-on/dark-on	DC PNP	4-pin M12 quick-disconnect	Diagram C	PDF

Notes: Purchase cable separately for the M12 quick-disconnect models.

Purchase reflectors separately for the Polarized retroreflective models.

Purchase 1 receiver and 1 emitter for a complete set. *The [LS49CI-M12](#) and [LE49CI.1/4X-M12](#) must be used as a set; the others are interchangeable.

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Wiring Diagrams

Diagram A

5-wire, Terminal chamber

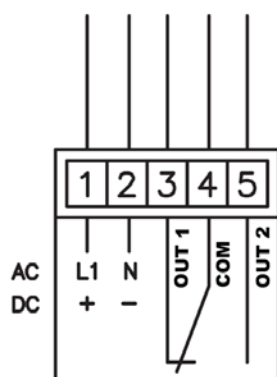


Diagram B

5-wire, Pigtail, 6.5ft/2m

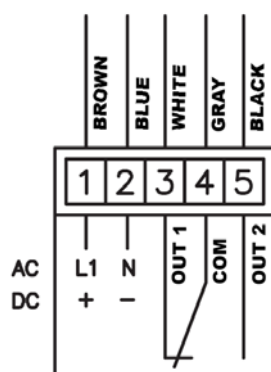


Diagram C

4-pin M12 quick-disconnect

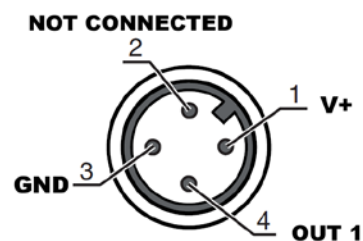


Diagram D

2-wire, Terminal chamber

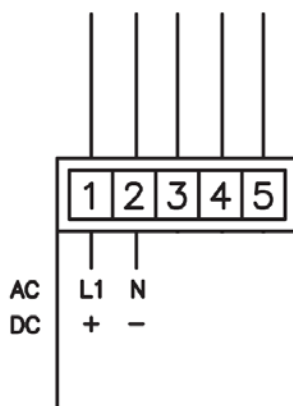


Diagram E

2-wire, Pigtail, 6.5ft/2m

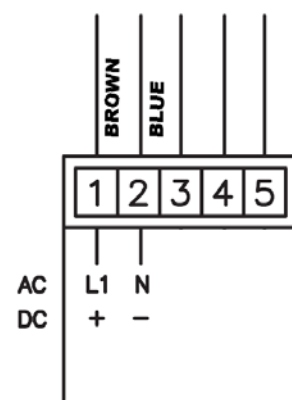
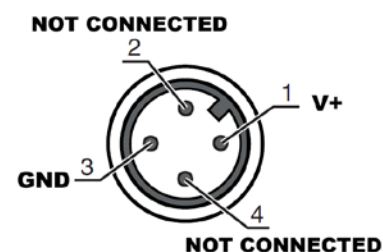


Diagram F

4-pin M12 quick-disconnect



Leuze 49C Series Rectangular Plastic Photoelectric Sensors

Specifications

Rectangular Plastic Photoelectric Sensors							
Sensor Type	Background suppression						
Sensor Model	<u>HT49CI.UC/TS</u>	<u>HT49CI.UC/TS-TB</u>	<u>HT49C.UC/TS</u>	<u>HT49CI.UCH/TS-TB</u>	<u>HT49C.UCH/TS-TB</u>	<u>HT49CI/4X-M12</u>	<u>HT49CI.H/4X-M12</u>
Operating Voltage	20–250 VAC/VDC					10–30 VDC	
Power Consumption	1.5 VA (AC) 1.5 W (DC)					0–20 mA	0–80 mA
Residual Ripple	—					0–15%, From U _B	
Switching Current (maximum)	2,500 mA					100 mA	
Switching Voltage High	250 VAC/VDC					≥(U _B -2V)	
Switching Voltage Low	—					≤2V	
Switching Frequency	25 Hz					250 Hz	
Response Time	20 ms					2 ms	
Time Delay Before Availability (tv)	300 ms					300 ms	
Voltage Reversal Protection	Yes						
Short-circuit Protection	Yes						
Operating Temperature	-40 to +60 °C [-40 to +140 °F]						
Storage Temperature	-40 to +70 °C [-40 to +158 °F]						
Degree of Protection	IP67						
Protection Class	II						
LED Indicators - Switching Status	Green LED: Operation ready Yellow LED: Switching outputs/switching state						
Housing Material	Polycarbonate						
Lens Material	Plastic						
Shock	EN 60068-2-27						
Vibration	EN 60068-2-6						
Tightening Torque	M3 0.9 N·m M4 1.4 N·m						
Weight	150g						
Conductor Size	22 AWG [0.34 mm²]	—	22 AWG [0.34 mm²]	—			
Agency Approvals *	cULus File: E203683, CE						

* To obtain the most current agency approval information, see the Agency Approval Compliance & Certifications Checklist section on the specific part number's web page.

Leuze 49C Series Rectangular Plastic Photoelectric Sensors

Specifications

Rectangular Plastic Photoelectric Sensors						
Sensor Type	Polarized retroreflective					
Sensor Model	<u>PRK49C.UC1/TS</u>	<u>PRK49C.UC1/TS-TB</u>	<u>PRK49C.UCH/TS-TB</u>	<u>PRK49C.UCD1/TS</u>	<u>PRK49C.UCD1/TS-TB</u>	<u>PRK49C.1/4X-M12</u>
Operating Voltage	20–250 VAC/VDC					10–30 VDC
Power Consumption	1.5 VA (AC) 1.5 W (DC)					0–20 mA
Residual Ripple	—					0–15%, From U _B
Switching Current (maximum)	2,500 mA					100 mA
Switching Voltage High	250 VAC/VDC					≥(U _B -2V)
Switching Voltage Low	—					≤2V
Switching Frequency	25 Hz					500 Hz
Response Time	20 ms					1 ms
Time Delay Before Availability (tv)	300 ms					300 ms
Voltage Reversal Protection	Yes					
Short-circuit Protection	Yes					
Operating Temperature	-40 to +60 °C [-40 to +140 °F]					
Storage Temperature	-40 to +70 °C [-40 to +158 °F]					
Degree of Protection	IP67					
Protection Class	II					
LED Indicators - Switching Status	Green LED: Operation ready Yellow LED: Switching outputs/switching state					
Housing Material	Polycarbonate					
Lens Material	Plastic					
Shock	EN 60068-2-27					
Vibration	EN 60068-2-6					
Tightening Torque	M3 0.9 N·m M4 1.4 N·m					
Weight	150g					
Conductor Size	22 AWG [0.34 mm²]	—	22 AWG [0.34 mm²]		—	
Agency Approvals *	cULus File: E203683, CE					

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Leuze 49C Series Rectangular Plastic Photoelectric Sensors

Specifications

Rectangular Plastic Photoelectric Sensors								
Sensor Type	Through-beam							
	Emitters				Receivers			
Sensor Model	LS49C.UC	LS49C.UCH/TB	LS49C.UC-TB	LS49CI-M12	LE49C.UC/TS	LE49C.UC/TS-TB	LE49C.UCH/TS-TB	LE49CI.1/4X-M12
Operating Voltage	20–250 VAC/VDC			10–30 VDC	20–250 VAC/VDC			10–30 VDC
Power Consumption	1.5 VA (AC) 1.5 W (DC)			0–20 mA	1.5 VA (AC) 1.5 W (DC)			0–20 mA
Residual Ripple	—			0–15%, From U _B	—			0–15%, From U _B
Switching Current (maximum)	—				2,500 mA			100 mA
Switching Voltage High	—				250 VAC/VDC			≥(U _B -2V)
Switching Voltage Low	—							≤2V
Switching Frequency	—				25 Hz			500 Hz
Response Time	—				20 ms			1 ms
Time Delay Before Availability (tv)	300 ms							
Voltage Reversal Protection	Yes							
Short-circuit Protection	Yes							
Operating Temperature	-40 to +60 °C [-40 to +140 °F]							
Storage Temperature	-40 to +70 °C [-40 to +158 °F]							
Degree of Protection	IP67							
Protection Class	II							
LED Indicators - Switching Status	Green, continuous LED: Operation ready Yellow, continuous LED: Operating voltage applied Yellow, continuous LED: (alignment display behind lens cover) Transmitted beam active				Green, continuous LED: Operation ready Yellow, continuous LED: Light path free Yellow, flashing LED: Light path free, no function reserve Yellow, continuous LED: (alignment display behind lens cover) Light path free Yellow, flashing LED: (alignment display behind lens cover) Light path free, minimum function reserve			
Housing Material	Polycarbonate							
Lens Material	Plastic							
Shock	EN 60068-2-27							
Vibration	EN 60068-2-6							
Tightening Torque	M3 0.9 N·m, M4 1.4 N·m							
Weight	150g							
Conductor Size	22 AWG [0.34 mm²]	—			22 AWG [0.34 mm²]	—		
Agency Approvals*	cULus File: E203683, CE							

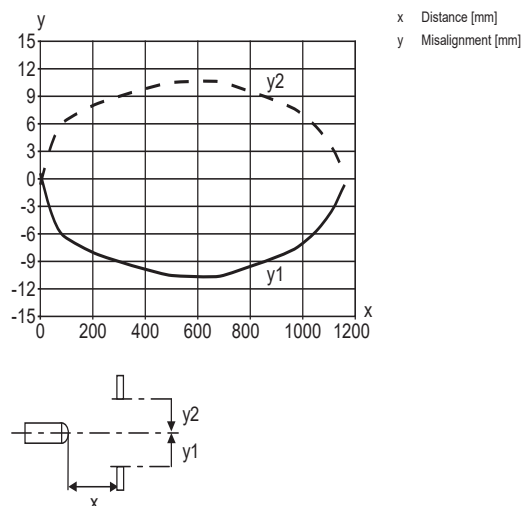
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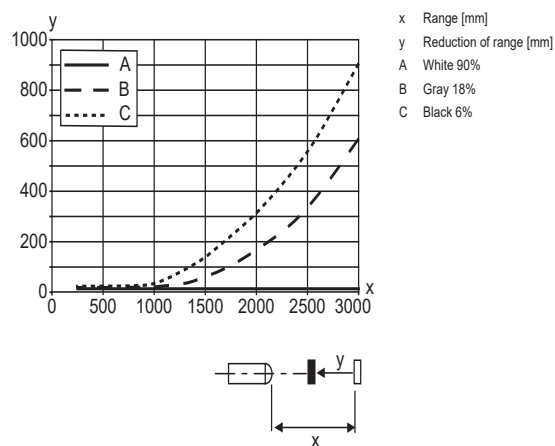
Characteristic Curves

Diffuse Models

Typ. response behavior (white 90%)

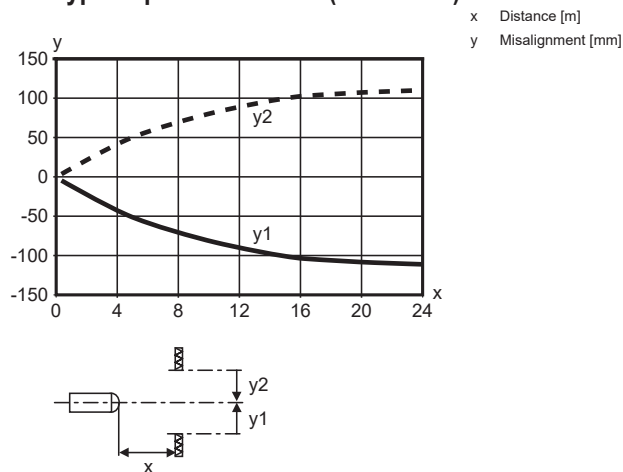


Typ. black/white behavior

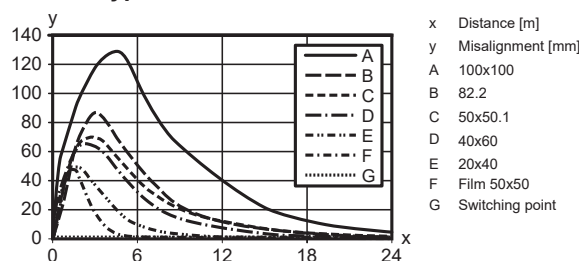


Polarized Retroreflective Models

Typ. response behavior (white 90%)



Typ. function reserve



Through-beam Models

Typ. response behavior

