

KT 5W-2 Dynamic Teach

Contrast Sensors



0.4 in (10 mm)/ 0.8 in (20 mm)  
sensing distance

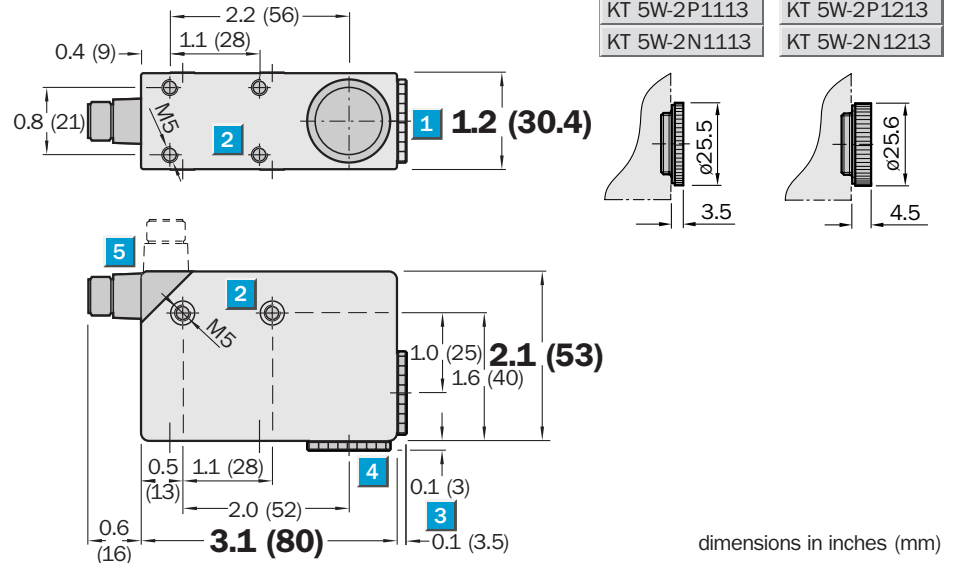
KT 5W-2 Dynamic Teach



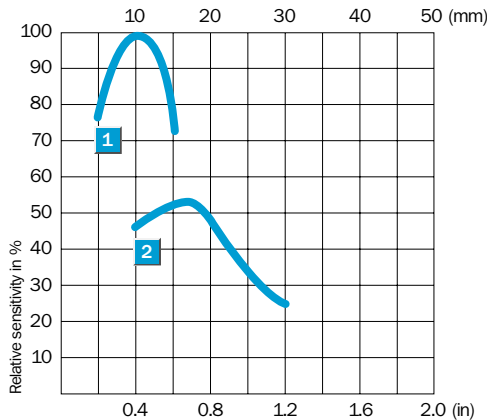
Highlights

- Rugged die cast metal housing
- Red, blue and green light source automatically selected
- Insensitive to ambient light
- Teach-in sensitivity adjustment “on the fly”
- Switching frequency up to 10 kHz
- Light/dark selection or teach-in can be done via wire
- Changeable lens position

Dimensional Drawing



Relative Sensitivity



1 Sensing distance with lens 211	10 mm
2 Sensing distance with lens 212	20 mm

Teach-in

Teach-in and light/dark

The two settings can be triggered simultaneously either via control panel or control cable.

Control panel: The teach-in button can be locked against accidental actuation with “run”. In an undefined switching position, no teach-in procedure can be triggered.

Setting through control panel:

1. Select “light (L)” or “dark (D)” using rotating switch
2. Trigger teach-in via teach-in button
3. Run the object to be detected at least one register length through the light spot

Acknowledged via Q or LED control flashes=insufficient contrast.

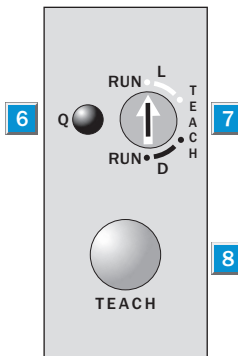
Setting via control cable (overrides setting on control panel)

1. Select “light” or “dark” using control cable
2. Trigger teach-in via ET control cable
3. Run the object to be detected at least one register length through the light spot
4. End teach-in

Material speed during teach-in:
min. 25 mm/s, max. 300 mm/s.

Adjustments

All types



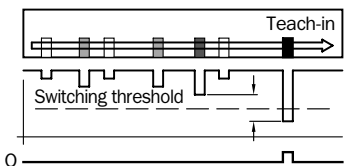
- 1** Lens (light transmission), can be replaced by Item **4**
- 2** M5 mounting holes, 5.5 mm deep
- 3** See dimensional drawing of lens
- 4** Blind screw, can be replaced by Item **1**
- 5** M12 plug (rotatable 90°)
- 6** Output indicator (yellow)
- 7** L/D switch
- 8** Teach button

Order Information

Type	Part no.
KT 5W-2P1113	1 016 629
KT 5W-2N1113	1 016 630
KT 5W-2P1213	1 016 715
KT 5W-2N1213	1 016 716

Accessories

Accessories	page
Cables and connectors	909
Mounting brackets	935
Lens	946



Technical Data		KT 5W-2-	P1113	N1113	P1213	N1213				
Sensing distance	0.4 in (10 mm) ± 0.1 in (3 mm)									
	0.8 in (20 mm) ± 0.1 in (3 mm)									
Light spot dimensions	0.05 x 0.2 in (1.2 x 4.2 mm)									
Light source³⁾, light type	LED, red, blue, green									
Supply voltage V_S	10...30 V DC ²⁾									
Ripple ³⁾	< 5 V _{SS}									
Current consumption ⁴⁾	< 80 mA									
Switching outputs Q	PNP: HIGH = V _S - < 2 V / LOW = 0 V									
	NPN: HIGH = V _S / LOW = < 2 V									
Output current I _A max.	100 mA, short-circuit protected									
Response time ⁵⁾	50 μs									
Max. switching frequency ⁶⁾	to 10 kHz									
Teach-in input ET	PNP - Teach: > 10 V...< V _S									
	Run: 0 V or no connection									
	NPN - Teach: 0 V									
	Run: V _S or no connection									
Retention time	25 ms non-volatile memory									
L/D input, light/dark switching	PNP: dark = > 10 V...< V _S									
	light = 0 V or no connection									
	NPN: dark = 0 V									
	light = V _S or no connection									
Connection type	Plug, M12 5-pin									
VDE protection class⁷⁾	<input type="checkbox"/>									
Enclosure rating	IP 67/NEMA 6									
Circuit protection⁸⁾	A, B, C									
Ambient temperature T_A	Operation 14...131°F (-10...55°C)									
	Storage -13...167°F (-25...75°C)									
Shock/vibration	To IEC 68									
Approximate weight	14 oz (400 g)									
Housing material	Die cast zinc									

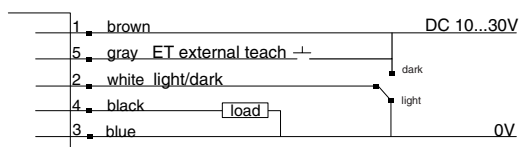
- 1) Average service life 100,000 h at T_A = 25°C
- 2) Limit values
- 3) May not exceed or fall short of V_S tolerances

- 4) Without load
- 5) Signal transit time with resistive load
- 6) With light/dark ratio 1:1
- 7) Reference voltage 50 V DC

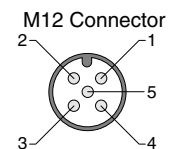
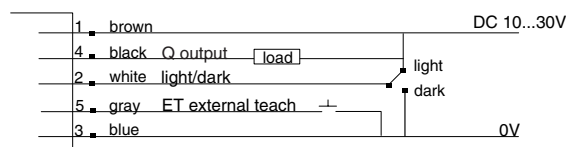
- 8) A = V_S connections reverse-polarity protected
- B = Output Q short-circuit protected
- C = Interference pulse suppression

Connection Diagram

PNP Models



NPN Models



wire colors refer to standard cable, not included