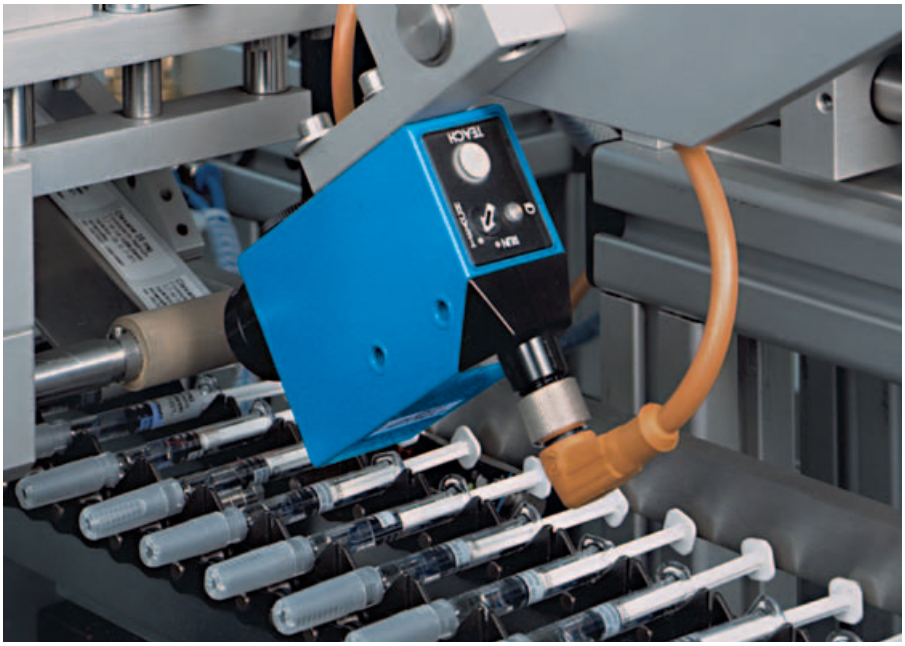


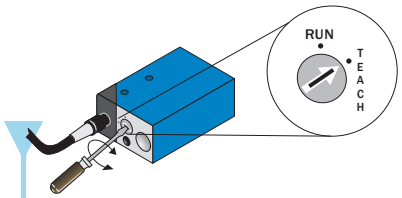
Contrast scanner with static Teach-in on mark and background

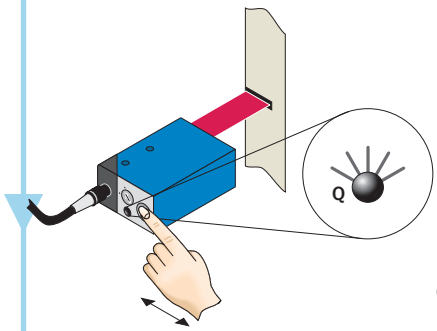
When especially high precision is required for contrast detection, e.g., in detecting marks on highly polished materials, the time (or – more precisely – the millisecond) is ripe for the KT 5W-2P/N___6 contrast scanner.

Thanks to its three-color LED, the equipment can activate the optimum transmitter light source for every contrast. Additionally, it has an especially accurate, static Teach-in procedure. The gray values of the mark to be detected are taught-in separately here either via the Teach-in button on the equipment or an external control wire. The scanner sets the ideal switching threshold from the two determined gray values.

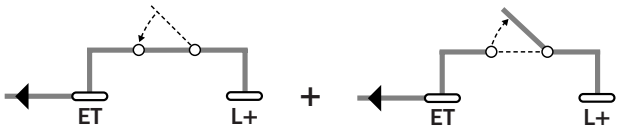
The high precision of the contrast detection, automatic shine adjustment with material to be scanned with high reflectance, scanning distances of 10 mm, 20 mm and 40 mm, switching sequence of 10 kHz and individual alignment and attachment options cover numerous tasks in which it is a questions of “brilliant” detection results.

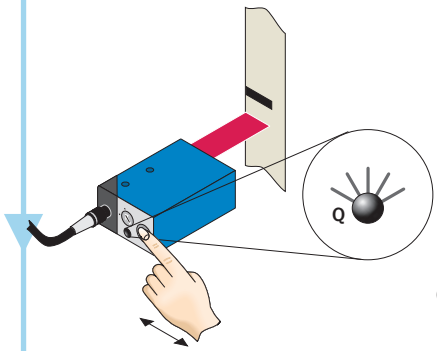
Teach-in: setting switching threshold



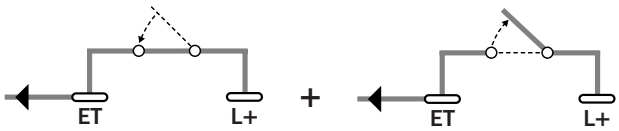


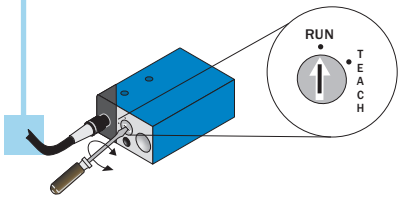
or





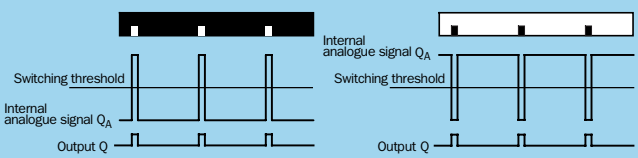
or





Status

- After the first Teach-in procedure, the red transmitter light and the status indicator blink and signal that a second Teach-in procedure must be triggered.
- The optimum transmission light was selected automatically.



Notes

- Light-/dark-switching not required: equipment switches for the material to be scanned, which was under the light spot at the first Teach-in procedure (mark or background).
- The material speed must be zero during Teach-in (machine is idle).
- The Teach-in button can be locked against unintentional activation with “Run”. A Teach-in procedure can be triggered when the switch setting is not defined.

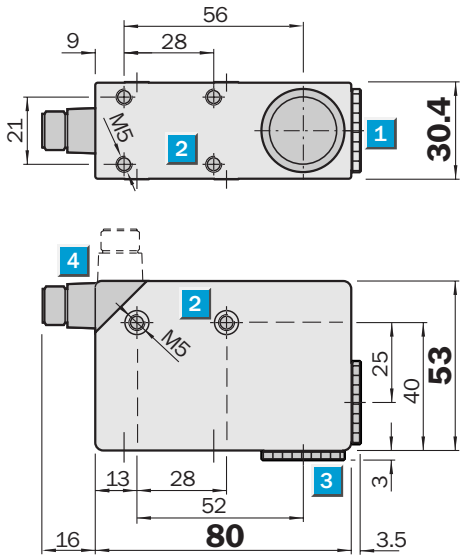
Scanning distance 10/20/40 mm

Contrast scanners

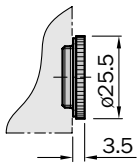
- Static Teach-in to mark and background via control cable or control panel on unit
- Automatic switching threshold adjustment for detection of extremely shiny objects
- Switching frequency 10 000/s
- Light source red, green, blue

Dimensional drawing

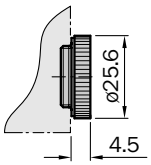
All types



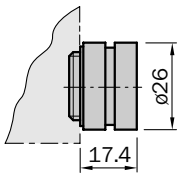
KT 5W-2P 1116
KT 5W-2P 1126



KT 5W-2P 1216
KT 5W-2N 1216

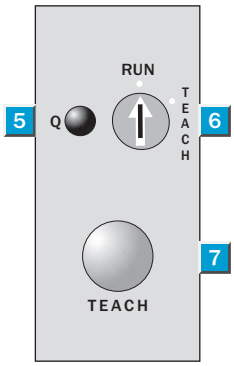


KT 5W-2P 1316
KT 5W-2N 1316



Adjustments possible

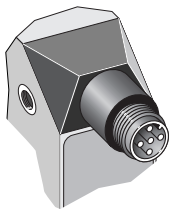
All types



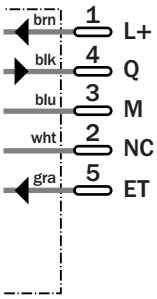
1 Lens (light transmission), can be replaced by item 3
2 M5 mounting holes, 5.5 mm deep
3 Blind screw, can be replaced by item 1
4 5-pin, M12 x 1 plug (rotatable through 90°)
5 Function signal indicator (yellow)
6 Pre-selection switch
7 Teach-in button

Connection type

All types



5-pin, M12 x 1



Accessories

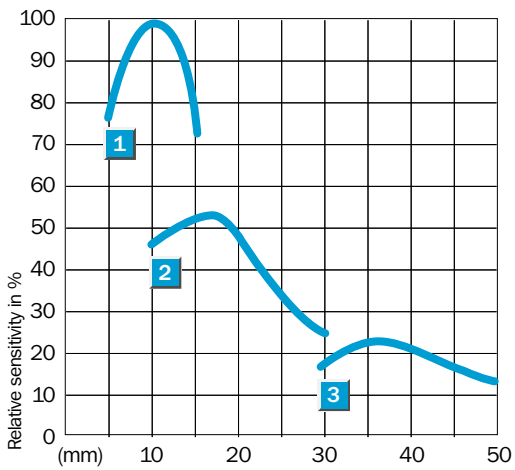
Cables and connectors
Mounting systems
Lens

Technical data	KT 5W-2	P1116	P1126	P1216	P1316	N1116	N1216	N1316
Scanning distance	10 ± 3 mm	■	■			■		
from front edge of lens	20 ± 3 mm			■			■	
	40 ± 3 mm				■			■
Light spot dimensions	1.2 x 4.2 mm	■	■			■		
	1.5 x 5.5 mm			■			■	
	1.1 x 4.2 mm				■			■
Light source[1]; light type;	LED; red, blue, green;	■	■	■	■	■	■	■
Wavelength (nm)	640, 525, 470	■	■	■	■	■	■	■
Supply voltage V_S	10... 30 V DC[2]	■	■	■	■	■	■	■
Residual ripple[3]	< 5 V_{PP}	■	■	■	■	■	■	■
Current consumption[4]	< 80 mA	■	■	■	■	■	■	■
Switching outputs	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]; switching frequency	50 µs; 10000/s	■	■	■	■	■	■	■
Time delay	No timing element	■		■	■	■	■	■
	Deactivation delay, ... 20 ms		■					
Teach-in input ET	PNP: Teach > 10 V...< V_S	■	■	■	■			
	Run 0 V or unswitched	■	■	■	■			
	NPN: Teach 0 V					■	■	■
	Run V_S or unswitched					■	■	■
Retention time	25 ms non-volatile memory	■	■	■	■	■	■	■
Connection type	Plug 5-pin, M12	■	■	■	■	■	■	■
VDE protection class[6]	⧈	■	■	■	■	■	■	■
Enclosure rating	IP 67	■	■	■	■	■	■	■
Circuit protection[7]	A, B, C	■	■	■	■	■	■	■
Ambient temperature T_A	Operation –10 ... +55 °C	■	■	■	■	■	■	■
	Storage –25 ... +75 °C	■	■	■	■	■	■	■
Shock load	To IEC 68	■	■	■	■	■	■	■
Weight	Approx. 400 g	■	■	■	■	■	■	■
Housing	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) Reference voltage 32 V DC
7) A = V_S connections reverse-polarity protected
B = Outputs short-circuit protected
C = Interference pulse suppression

Scanning distance

1	Scanning distance 10 mm
2	Scanning distance 20 mm
3	Scanning distance 40 mm



Order information

Preferred type *)	Order no.
KT 5W-2P 1116	1 018 044
KT 5W-2P 1126	1 018 587
KT 5W-2P 1216	1 018 586
KT 5W-2P 1316	1 018 961
KT 5W-2N 1116	1 018 045
KT 5W-2N 1216	1 019 022
KT 5W-2N 1316	1 022 678

*) Further types on request