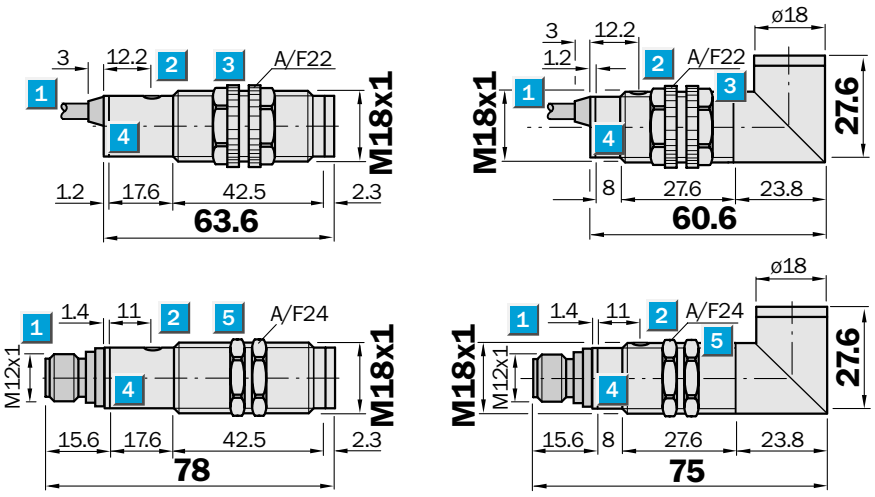
Scanning distance
0…50 mm/
3…100 mm

Photoelectric proximity switches

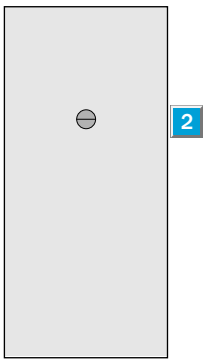
- Focused optics, which provide background blanking and an excellent scanning reliability
- 2 scanning distance options: SD 1 = 50 mm, SD 2 = 100
- Optionally VT 18-3 in 3-line model or VT 18-4 with light/dark control line
- Many other options

Dimensional drawing



Adjustments possible

See selection table on page 365, 366

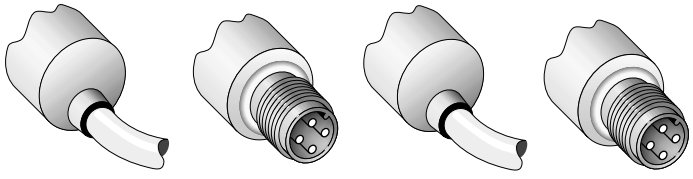


1 Connecting cable or plug
2 Sensitivity control
3 Fastening nut, width across 22 mm, made of plastic for equipment with plastic housing
4 Signal strength indicator, LED, yellow
5 Fastening nut, width across 24 mm, made of metal for equipment with metal housing

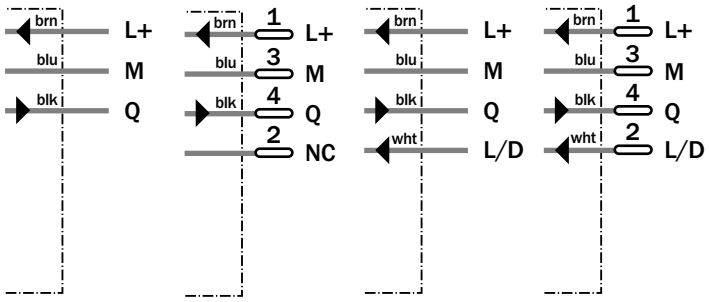
Connection types

VTF 18-3 | VTF 18-4

Variants, equipment options: See selection table on pages 365, 366 for type name and part no.



3 x 0.14 mm²	4-pin, M 12	4 x 0.14 mm²	4-pin, M 12



Accessories	page
Cable receptacle	496
Reflectors	520

Technical data		VTF 18-	3x5...	4x5...	3x1...	4x1...
Housing		Straight	■	■	■	■
		Angled, 90°	■	■	■	■
VTF 18 Scanning distance 50 mm						
Scanning distance, max. typical[1]		0…50 mm	■	■		
Operating distance[1]		0…45 mm	■	■		
Light spot diameter		Approx. 3 mm at a distance of 25 mm	■	■		
Angle of dispersion of sender		Focused, focus 25 mm	■	■		
Sensitivity, adjustable (optional)		Potentiometer 270°	■	■		
VTF 18 Scanning distance 100 mm						
Scanning distance, max. typical[1]		3…100 mm			■	■
Operating distance[1]		3…90 mm			■	■
Light spot diameter		Approx. 3 mm at a distance of 50 mm			■	■
Angle of dispersion of sender		Focused, focus 50 mm			■	■
Sensitivity, adjustable (optional)		Potentiometer 270°			■	■
Light source[2], light type		LED, infrared light	■	■	■	■
Supply voltage V_S		10…30 V DC[3]	■	■	■	■
Ripple[4]		± 10 %	■	■	■	■
Current consumption[5]		≤ 30 mA	■	■	■	■
Switching outputs (optional)		PNP/NPN	■	■	■	■
Switching mode		Q, dark-switching	■		■	
		Q, light-switching	■		■	
	via control wire[6]	Q, light-/dark-switching		■		■
		+ V_S = light-switching		■		■
		0 V = dark-switching		■		■
Output current I_A max.		100 mA	■	■	■	■
Response time[7]		≤ 2 ms	■	■	■	■
Max. switching frequency[8]		250/s	■	■	■	■
Connection types						
	cable 2 m[9]	PVC, 3 x 0.14 mm², ø 3.1 mm	■		■	
		PVC, 4 x 0.14 mm², ø 5 mm		■		■
	plug	4-pin, M12	■	■	■	■
VDE protection class[10]		⧈	■	■	■	■
Circuit protection[11]		A, B, C, D	■	■	■	■
Enclosure rating		IP 67	■	■	■	■
Ambient temperature T_A		– 25 °C…+ 70 °C	■	■	■	■
Weight	metal housing	Approx. 120 g	■	■	■	■
	plastic housing	Approx. 100 g	■	■	■	■
Housing material						
	metal housing	Nickel-plated brass; PBT/PC	■	■	■	■
	plastic housing	PBT/PC	■	■	■	■
	optic	PMMA	■	■	■	■

1) Object with 90 % reflectance (referred to standard white DIN 5033)
2) Average service life 100,000 h at T_A = + 25 °C
3) Limit values
4) Must be within V_S tolerances
5) Without load
6) Control wire open:
NPN: light-switching
PNP: dark-switching
7) With resistive load
8) With light/dark ratio 1:1
9) Do not bend below 0 °C
10) Reference voltage 50 V DC
11) A = V_S connections reverse-polarity protected
B = Inputs/outputs reverse-polarity protected
C = Interference suppression
D = Outputs overcurrent and short-circuit protected

Order information

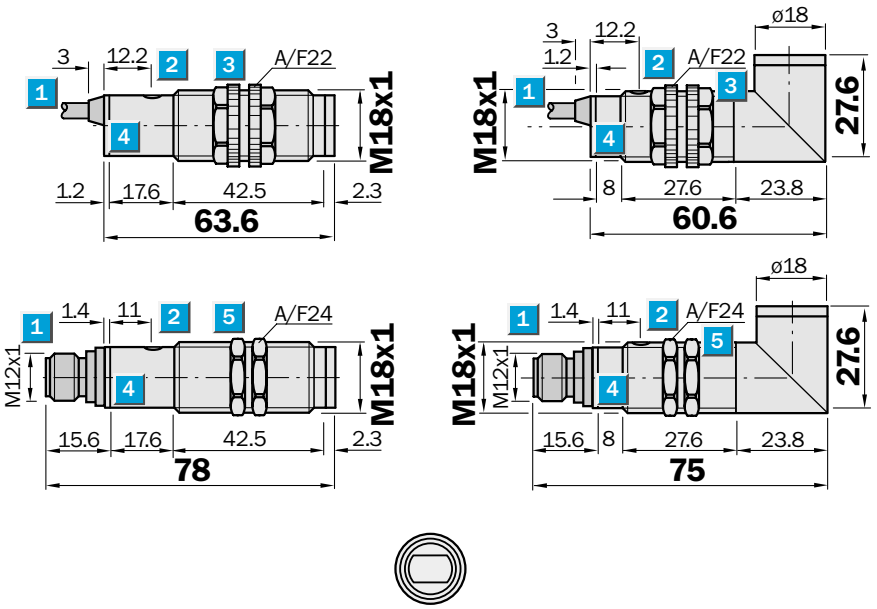
See selection table on page 365, 366

Scanning distance 3…200/5…400/ 10…800 mm

Photoelectric proximity switch

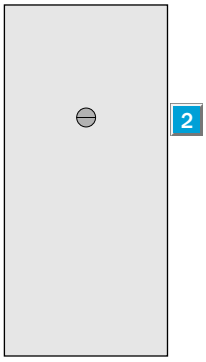
- Energetic scanner, also with large scanning distances for standard applications
- 3 scanning distance options:
  SD 1 = 200 mm
  SD 2 = 400 mm
  SD 3 = 800 mm
- Optionally VT 18-3 in 3-line model or VT 18-4 with light/dark control line
- Many other options

Dimensional drawing



Adjustments possible

See selection table on page 367–369

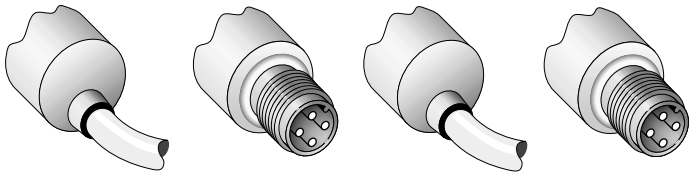


1 Connecting cable or plug
2 Sensitivity control
3 Fastening nut, width across 22 mm, made of plastic for equipment with plastic housing
4 Signal strength indicator, LED, yellow
5 Fastening nut, width across 24 mm, made of metal for equipment with metal housing

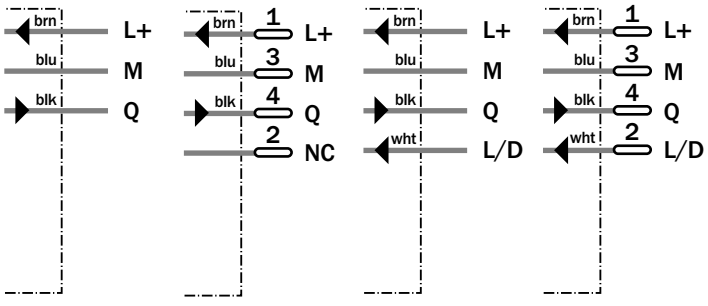
Connection types

VTE 18-3 | VTE 18-4

Variants, equipment options: See selection table on pages 367 – 369 for type name and part no.



3 x 0.14 mm²	4-pin, M 12	4 x 0.14 mm²	4-pin, M 12



Accessories	page
Cable receptacle	496
Reflectors	520

Technical data		VTE 18-	3x2...	4x2...	3x4...	4x4...	3x8...	4x8...
Housing		Straight	■	■	■	■	■	■
		Angled, 90°	■	■	■	■	■	■
VTE 18 Scanning distance 200 mm								
Scanning distance, max. typical[1]		3…200 mm	■	■				
Scanning distance[1]		3…170 mm	■	■				
Light spot diameter		Approx. 10 mm at a dist. of 200 mm	■	■				
VTE 18 Scanning distance 400 mm								
Scanning distance, max. typical[1]		5…400 mm			■	■		
Scanning distance[1]		5…350 mm			■	■		
Light spot diameter		Approx. 20 mm at a dist. of 400 mm			■	■		
VTE 18 Scanning distance 800 mm								
Scanning distance, max. typical[1]		10…800 mm					■	■
Scanning distance[1]		10…700 mm					■	■
Light spot diameter		Approx. 40 mm at a dist. of 800 mm					■	■
Sensitivity adjustable (optional)		Potentiometer 270°	■	■	■	■	■	■
Light source[2], **light type**		LED, infrared light	■	■	■	■	■	■
Angle of dispersion of sender		2.8°	■	■	■	■	■	■
Supply voltage V_S		10…30 V DC[3]	■	■	■	■	■	■
Ripple[4]		± 10 %	■	■	■	■	■	■
Current consumption[5]		≤ 30 mA	■	■	■	■	■	■
Switching outputs (optional)		PNP/NPN; open collector: Q	■	■	■	■	■	■
Switching mode		Q, light-/dark-switching	■		■		■	
		Q, light-switching	■		■		■	
	via control wire L/D[6]	Q, light-/dark-switching		■		■		■
		+ V_S = light-switching		■		■		■
		0 V = dark-switching		■		■		■
Output current I_A max.		100 mA	■	■	■	■	■	■
Response time[7]		≤ 2 ms	■	■	■	■	■	■
Max. switching frequency[8]		250/s	■	■	■	■	■	■
Connection types								
	cable 2 m[9]	PVC, 3 x 0.14 mm², ⌀ 3.1 mm	■		■		■	
		PVC, 4 x 0.14 mm², ⌀ 5 mm		■		■		■
	plug	4 pin, M12	■	■	■	■	■	■
VDE protection class[10]		⧈	■	■	■	■	■	■
Circuit protection[11]		A, B, C, D	■	■	■	■	■	■
Enclosure rating		IP 67	■	■	■	■	■	■
Ambient temperature T_A		– 25 °C…+ 70 °C	■	■	■	■	■	■
Weight	metal housing	Approx. 120 g	■	■	■	■	■	■
	plastic housing	Approx. 100 g	■	■	■	■	■	■
Housing material								
	metal housing	Nickel-plated brass; PBT/PC	■	■	■	■	■	■
	plastic housing	PBT/PC	■	■	■	■	■	■
	optic	PMMA	■	■	■	■	■	■

1) Object with 90 % reflectance (referred to standard white DIN 5033)
2) Average service life 100,000 h at T_A = + 25 °C
3) Limit values
4) Must be within V_S tolerances
5) Without load
6) Control wire open:
NPN: light-switching
PNP: dark-switching
7) With resistive load
8) With light/dark ratio 1:1
9) Do not bend below 0 °C
10) Reference voltage 50 V DC
11) A = V_S connections reverse-polarity protected
B = Inputs/outputs reverse-polarity protected
C = Interference suppression
D = Outputs overcurrent and short-circuit protected

Order information

See selection table on page 367 – 369