

Analog Distance Measurement

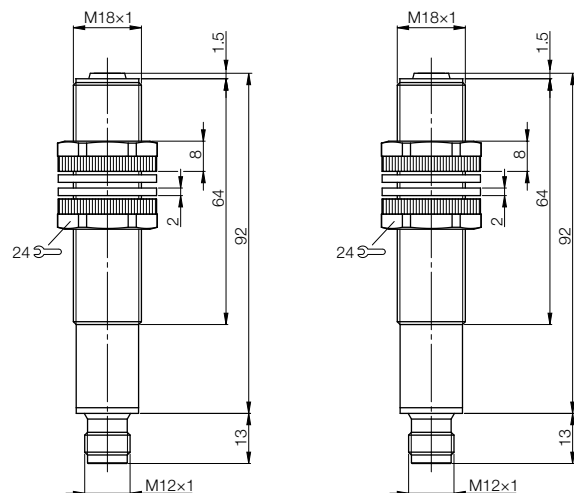
Tubular housings · M18



Housing size		M18×1	M18×1
Measuring range		60...300 mm	60...300 mm
0...10 V DC	Ordering code	BUS000K	
	Part number	BUS M18K0-XAFX-030-S04K	
4...20 mA	Ordering code		BUS000N
	Part number		BUS M18K0-XBFX-030-S04K
Supply voltage U_B		24 V DC $\pm 25\%$	24 V DC $\pm 25\%$
No-load supply current I_0 max.		≤ 35 mA	≤ 35 mA
Reverse polarity/short circuit protected		yes/yes	yes/yes
Ambient temperature range T_a		-15...+70 °C	-15...+70 °C
Output function indicator			
Echo function indicator			
Degree of protection per IEC 60529		IP 67	IP 67
Temperature compensation			
Ultrasonic frequency		330 kHz	330 kHz
Sound cone opening		8°	8°
Resolution		0.2 mm	0.2 mm
Max. characteristic deviation		$\leq 0.3\%$	$\leq 0.3\%$
Characteristic slope		42 mV/mm	67 μ A/mm
Settings			
Response time		50 ms	50 ms
Material	Housing	PBT	PBT
	Sensing face	Epoxy-resin hollow-glass-spheres	Epoxy-resin hollow-glass-spheres
	Cover	PBT	PBT
Approvals		CE, cULus	CE, cULus
Connection		M12 connector, 4-pin, A-coded	M12 connector, 4-pin, A-coded

SYNC

Synchronization prevents sensors that are positioned adjacent to one another from interfering with each other. Sensors are synchronized by connecting their sync lines together. Synchronized sensors start their transmit pulse at the same time. The slowest sensor determines the cycle time.



Sound deflection brackets and focussing attachments can be found on page 46.



Analog Distance Measurement

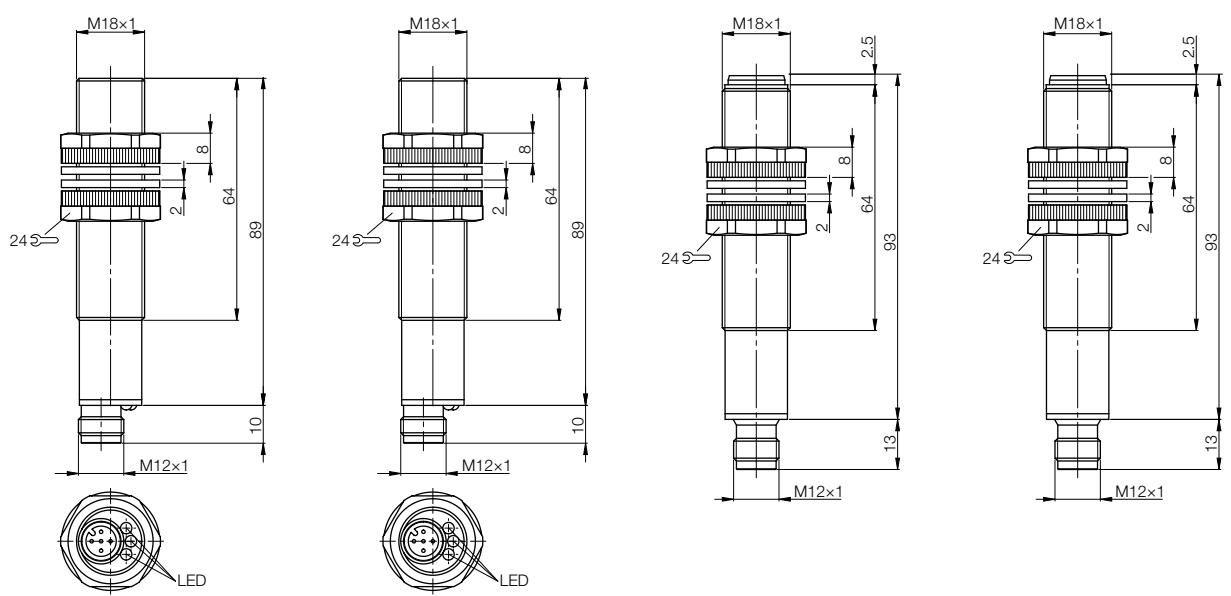
Tubular housings · M18



M18x1 30...400 mm	M18x1 30...400 mm	M18x1 100...600 mm	M18x1 100...600 mm
BUS0003		BUS000J	
BUS M18K0-XAER-040-S92K		BUS M18K0-XAFX-060-S04K	
	BUS0004		BUS000M
	BUS M18K0-XBER-040-S92K		BUS M18K0-XBFX-060-S04K
24 V DC ±25 % ≤ 40 mA yes/yes -15...+70 °C 2x LED yellow LED green IP 67	24 V DC ±25 % ≤ 40 mA yes/yes -15...+70 °C 2x LED yellow LED green IP 67	24 V DC ±25 % ≤ 35 mA yes/yes -15...+70 °C	24 V DC ±25 % ≤ 35 mA yes/yes -15...+70 °C
yes 360 kHz 8° 0.2 mm ≤ 0.5 % adjustable Teach-in (remote) 100 ms PBT	yes 360 kHz 8° 0.2 mm ≤ 0.5 % adjustable Teach-in (remote) 100 ms PBT	yes 300 kHz 8° 0.2 mm ≤ 0.3 % 20 mV/mm 50 ms PBT	yes 300 kHz 8° 0.2 mm ≤ 0.3 % 32 µA/mm 50 ms PBT
Epoxy-resin hollow-glass-spheres PBT CE M12 connector, 5-pin, A-coded	Epoxy-resin hollow-glass-spheres PBT CE M12 connector, 5-pin, A-coded	Epoxy-resin hollow-glass-spheres PBT CE, cULus M12 connector, 4-pin, A-coded	Epoxy-resin hollow-glass-spheres PBT CE, cULus M12 connector, 4-pin, A-coded



Tubular housings
Block-style housings



Electrical devices, connectors and holders, see Accessories section, starting on **page 37**



Analog Distance Measurement

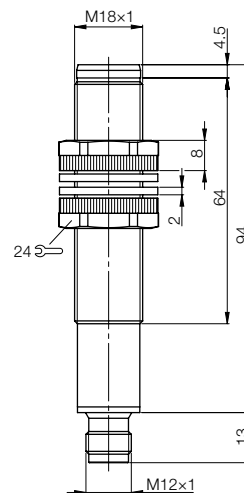
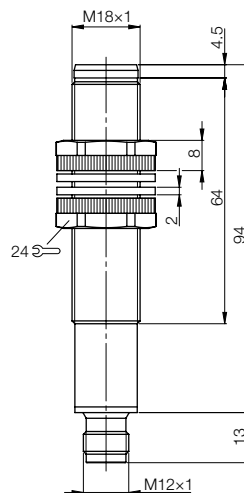
Tubular housings · M18



Housing size		M18x1	M18x1
Measuring range		200...1500 mm	200...1500 mm
0...10 V DC	Ordering code	BUS000H	
	Part number	BUS M18K0-XAFX-150-S04K	
4...20 mA	Ordering code		BUS000L
	Part number		BUS M18K0-XBFX-150-S04K
Supply voltage U_B		24 V DC $\pm 25\%$	24 V DC $\pm 25\%$
No-load supply current I_0 max.		≤ 35 mA	≤ 35 mA
Reverse polarity/short circuit protected		yes/yes	yes/yes
Ambient temperature range T_a		-15...+70 °C	-15...+70 °C
Degree of protection per IEC 60529		IP 67	IP 67
Ultrasonic frequency		180 kHz	180 kHz
Sound cone opening		8°	8°
Resolution		0.2 mm	0.2 mm
Max. characteristic deviation		$\leq 0.3\%$	$\leq 0.3\%$
Characteristic slope		5.5 mV/mm	8.8 μ A/mm
Response time		150 ms	150 ms
Material	Housing	PBT	PBT
	Sensing face	Epoxy-resin hollow-glass-spheres	Epoxy-resin hollow-glass-spheres
	Cover	PBT	PBT
Approvals		CE, cULus	CE, cULus
Connection		M12 connector, 4-pin, A-coded	M12 connector, 4-pin, A-coded

SYNC

Synchronization prevents sensors that are positioned adjacent to one another from interfering with each other. Sensors are synchronized by connecting their sync lines together. Synchronized sensors start their transmit pulse at the same time. The slowest sensor determines the cycle time.



Sound deflection brackets and focussing attachments can be found on page 46.



Analog Distance Measurement

Tubular housings · M30



Housing size		M30x1.5	M30x1.5
Measuring range		80...1600 mm	350...3500 mm
0...10 V DC or 4...20 mA and 2x PNP N.O./N.C.	Ordering code	BUS0016	BUS0015
	Part number	BUS M30K0-PWCET-150-S92K	BUS M30K0-PWCET-350-S92K
0...10 V DC or 4...20 mA and 2x NPN N.O./N.C.	Ordering code	BUS0018	BUS0017
	Part number	BUS M30K0-NWCET-150-S92K	BUS M30K0-NWCET-350-S92K
Supply voltage U_B		24 V DC $\pm 25\%$	24 V DC $\pm 25\%$
Output current max.		100 mA	100 mA
No-load supply current I_0 max.		≤ 60 mA	≤ 60 mA
Reverse polarity/short circuit protected		yes/yes	yes/yes
Ambient temperature range T_a		-15...+70 °C	-15...+70 °C
Switching frequency f		1 Hz	1 Hz
Output function indicator		2x LED yellow	2x LED yellow
Echo function indicator		LED green	LED green
Degree of protection per IEC 60529		IP 67	IP 67
Temperature compensation		yes	yes
Ultrasonic frequency		220 kHz	130 kHz
Sound cone opening		8°	8°
Resolution		1 mm	1 mm
Max. characteristic deviation		0.5 %	0.5 %
Characteristic slope		adjustable	adjustable
Settings		Teach-in (button)	Teach-in (button)
Response time		300 ms	500 ms
Material	Housing	PBT	PBT
	Sensing face	Epoxy-resin hollow-glass-spheres	Epoxy-resin hollow-glass-spheres
	Cover	PBT	PBT
Approvals		CE	CE
Connection		M12 connector, 5-pin, A-coded	M12 connector, 5-pin, A-coded



Tubular housings
Block-style housings



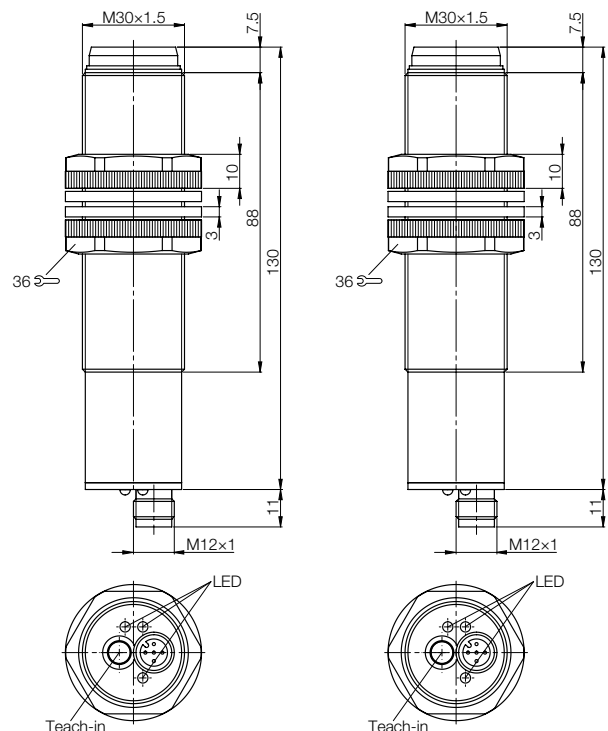
Hysteresis and window function are possible. For explanations, see chapter Fundamentals and Definitions, page 20.



BAE006Y (BES 516-611-A-1)

Analog switching device for control cabinet installation

The analog switching device is operated with 24 V and supplies the voltage for analog sensors. The device is controlled directly via the current or voltage signals. From this signal, separate push-pull final stages (PNP/NPN) are used to create three switch points (A1...A3) which can be set independently using the potentiometer (on the front side). The respective switching state is indicated by LEDs.



Electrical devices, connectors and holders, see Accessories section, starting on **page 37**

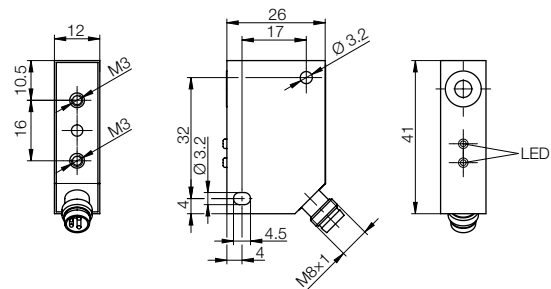


Analog Distance Measurement

Block-style housings · 41×26×12 mm
R05



Housing size	41×26×12 mm (R05)	
Measuring range	25...250 mm	
0...10 V DC	Ordering code	BUS0009
	Part number	BUS R05K0-XACR-025-S75G
Supply voltage U_b	24 V DC $\pm 25\%$	
No-load supply current I_0 max.	≤ 100 mA	
Reverse polarity/short circuit protected	yes/yes	
Ambient temperature range T_a	$-10...+70$ °C	
Output function indicator	LED yellow	
Echo function indicator	LED green	
Degree of protection per IEC 60529	IP 67	
Temperature compensation	yes	
Ultrasonic frequency	400 kHz	
Sound cone opening	8°	
Resolution	0.2 mm	
Max. characteristic deviation	$\leq 0.3\%$	
Characteristic slope	adjustable	
Settings	Teach-in (remote, magnet)	
Response time	40 ms	
Material	Housing	PA
	Sensing face	Epoxy-resin hollow-glass-spheres/PUR
	Cover	PA
Approvals	CE	
Connection	M8 connector, 4-pin	



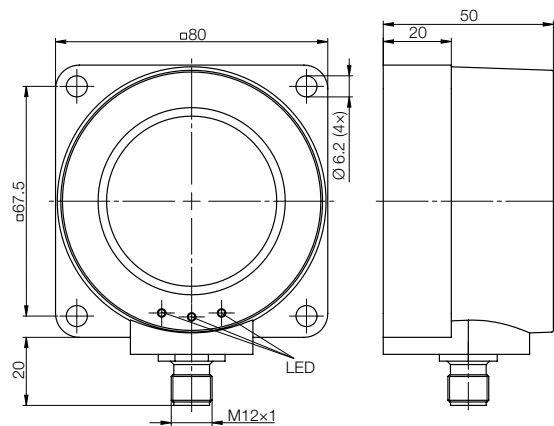
Analog Distance Measurement

Block-style housings · 80×80×50 mm
Maxisensor



Tubular housings
Block-style housings

Housing size	80×80×50 mm (Maxisensor)	
Measuring range	600...6000 mm	
0...10 V DC	Ordering code	BUS000E
	Part number	BUS Q80K0-XAER-600-S92K
4...20 mA	Ordering code	BUS000F
	Part number	BUS Q80K0-XBER-600-S92K
Supply voltage U_B	24 V DC $\pm 25\%$	
No-load supply current I_0 max.	≤ 35 mA	
Reverse polarity/short circuit protected	yes/yes	
Ambient temperature range T_a	$-20...+70$ °C	
Output function indicator	2× LED yellow	
Echo function indicator	LED green	
Degree of protection per IEC 60529	IP 65	
Temperature compensation	yes	
Ultrasonic frequency	80 kHz	
Sound cone opening	8°	
Resolution	1 mm	
Max. characteristic deviation	$\leq 0.5\%$	
Characteristic slope	adjustable	
Settings	Teach-in (remote)	
Response time	700 ms	
Material	Housing	PBT
	Sensing face	Epoxy-resin hollow-glass-spheres/PUR
	Cover	PBT
Approvals	CE	
Connection	M12 connector, 5-pin, A-coded	



Electrical devices,
connectors
and holders,
see Accessories
section, starting
on **page 37**



