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Important Note

The information shown in these documents is for guidance only. No liability is accepted for any errors or omissions. The designer or user is solely responsible for the safe and proper application of the parts, assemblies or equipment described.

Zylinder ISO 6432

Technische Daten

Cylinders ISO 6432

Technical Data

Diese Zylinder entsprechen der Norm DIN ISO 6432.
Die Ausführung "S" ist nicht Bestandteil der Norm.

Technische Daten:

Druckbereich:

Kolben Ø mm	Betriebsdruck (bar)	
	ew	dw
8	2 - 10	1.5 - 10
10	1.5 - 10	1.5 - 10
12	1.5 - 10	1 - 10
16	1.5 - 10	1 - 10
20	1.5 - 10	0.5 - 10
25	1.5 - 10	0.5 - 10

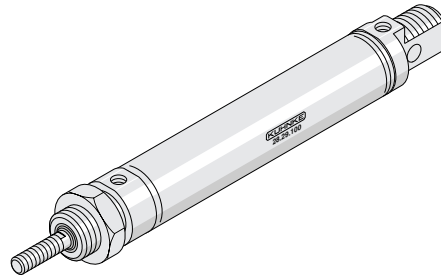
Umgebungs-
temperatur: - 20 °C...+ 70 °C**
Werkstoffe: Zylinderrohr: CrNi-Stahl,
korrosionsbeständig
Zylinderdeckel:
Aluminium
Kolbenstange: CrNi-
Stahl, korrosions-
beständig
Dämpfungsscheibe:
Elastomer, schlagfest
Dichtungen: Perbunan, ölbeständig
Schmiermittel: Shell Tellus Öl C10
oder gleichwertig
Medium: Druckluft, gewartet*
Hubbegrenzung: möglichst extern
(optimale Lebensdauer)
Hubtoleranz: max. + 1,5 mm
Federkraft: ausgelegt für Rückbe-
wegung des Kolbens,
nicht für angekoppelte
Massen.
Flächenverhältnis der
Kolben bei doppeltwir-
kenden Zylindern (be-
dingt durch Abzug der
Kolbenstangenquer-
schnitte)

Zylinder 8, 12 mm	4:3
Zylinder 10 mm	6:5
Zylinder 16, 20, 25 mm	7:6

Befestigung: Ausführung "S":
Schraubbefestigung am
Zylinderdeckel der Kol-
benstangenseite
Ausführung "U":
Universalbefestigung
(Schraubbefestigung an
beiden Zylinderdeckeln,
Schwenkbefestigung)

Sonderzylinder nach Ihren Angaben und
Zylinder mit doppelseitiger Kolbenstange,
sowie Zylinder mit Zwischen- und Überlän-
gen bitten wir anzufragen.

*, ** siehe Technische Information



These cylinders have been designed in
conformity with DIN ISO 6432
standard. Version "S" is not considered
in above standard.

Technical Data:

Pressure range:

Piston dia. mm	Operating pressure (bar)	
	sa	da
8	2 - 10	1.5 - 10
10	1.5 - 10	1.5 - 10
12	1.5 - 10	1 - 10
16	1.5 - 10	1 - 10
20	1.5 - 10	0.5 - 10
25	1.5 - 10	0.5 - 10

Ambient tem-
perature range: - 20 °C...+ 70 °C**
Materials: cylinder tube: CrNi-steel
cylinder covers:
aluminium
piston rod: CrNi-steel,
corrosion-resistant
cushioning: plastic,
impact-resistant

Seals: Perbunan, oil-resistant
Lubricant: Shell Tellus Oil C10
or equivalent

Operating
medium: compressed air,
prepared*
Stroke limitation: if possible external
(for optimum life)
Stroke tolerance: max. + 1.5 mm
Spring force: designed for return of
piston, not for any
coupled mass.
area ratio of piston
with double acting cy-
linders (due to reduc-
tion of
piston rod sections)

Cylinders 8-12 mm	4:3
Cylinders 10 mm	6:5
Cylinders 16, 20, 25 mm	7:6

Mounting: version "S":
threaded mounting on
cylinder cover at pis-
ton rod end.
version "U":
universal mounting
(threaded attachment
on both cylinder cov-
ers, trunnion moun-
ting)

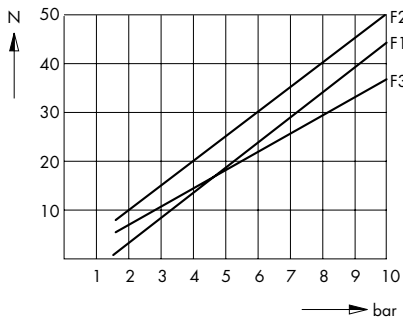
Please enquire about special cylinders
to your own requirements and cylinders
with double-sided piston rod as well as
intermediate and extra long dimensions.

*, ** see Technical Information

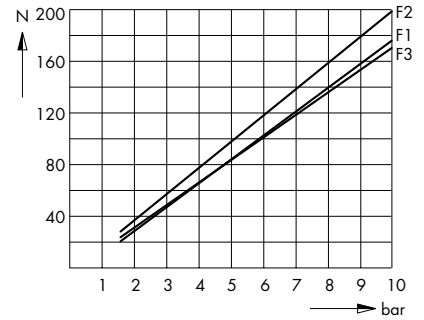
Statische Zylinderkennlinien*
Kolbendurchmesser

Static Cylinder Characteristics*
Piston Diameter

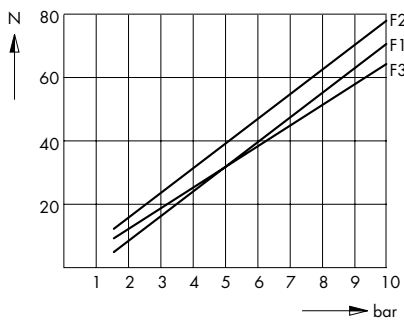
Ø 8 mm



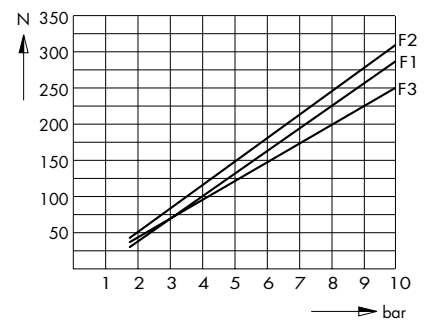
Ø 16 mm



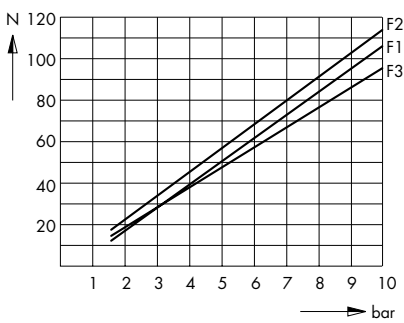
Ø 10 mm



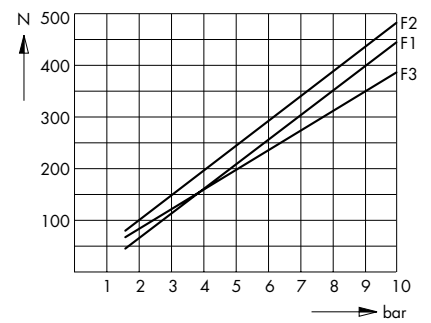
Ø 20 mm



Ø 12 mm



Ø 25 mm



* Für das dynamische Verhalten sind die Zylinderkennlinien mit dem Faktor 0,5 - 0,7 zu multiplizieren.

F1 = einfachwirkende Zylinder
F2 = doppeltwirkende Zylinder im Vorlauf
F3 = doppeltwirkende Zylinder im Rücklauf

* The cylinder characteristics are to be multiplied by a factor of 0.5 - 0.7 for the dynamic behaviour.

F1 = single acting cylinders
F2 = double acting cylinders in forward stroke
F3 = double acting cylinders in return stroke

Zylinder ISO 6432

Doppeltwirkend, mit/ohne Magnetkolben
Ø 8 ... 25 mm

Cylinders ISO 6432

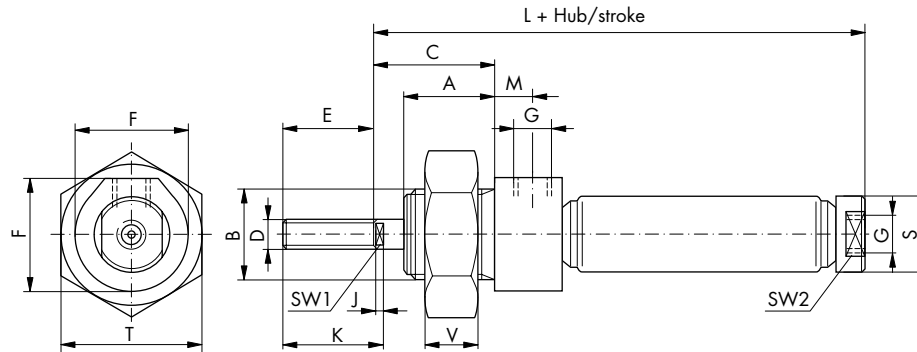
Double Acting, with/without Magnetic Piston
Diameter 8 ... 25 mm

Ausführung S, mit Magnetkolben

Der Zylinder wird mit montierter
Kolbenstangenmutter geliefert

Type S with magnetic piston

The cylinder is supplied with assembled
rod nut



Maßstabelle

Dimensions

Kolben Ø Piston dia. mm	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	R	S Ø	T	U	V	X	SW1	SW2
8	12	M12x1,25	16	M4	12	15	M5				55	5					10	19		7			8
10	12	M12x1,25	16	M4	12	15	M5				56	5					12	19		7			10
12	17	M16x1,5	22	M6	16	20	M5		3,5	19,5	64	5					14	24		8		5	12
16	17	M16x1,5	22	M6	16	20	M5		3,5	19,5	74	5					18	24		8		5	16
20	20	M22x1,5	24	M8	20	27	G1/8		4	23	82	8					22	32		10		7	19
25	22	M22x1,5	28	M10x1,25	22	27	G1/8		4	26	90	8					27	32		10		9	24

Kolben Ø Piston dia. mm	Bestell-Nr. *) Standard-Hübe (mm)									Order No. *) Standard strokes (mm)														
	10	25	40	50	80	100	125	160																
8	23.251.010	23.251.025	23.251.040	23.251.050	23.251.080	23.251.100																		
10	24.251.010	24.251.025	24.251.040	24.251.050	24.251.080	24.251.100																		
12	25.251.010	25.251.025	25.251.040	25.251.050	25.251.080	25.251.100	25.251.125																	
16	26.251.010	26.251.025	26.251.040	26.251.050	26.251.080	26.251.100	26.251.125	26.251.160																
20	27.251.010	27.251.025	27.251.040	27.251.050	27.251.080	27.251.100	27.251.125	27.251.160																
25	28.251.010	28.251.025	28.251.040	28.251.050	28.251.080	28.251.100	28.251.125	28.251.160																

* Zwischenhübe sind auf Wunsch lieferbar bis zum max. Hub lt. Tabelle. Der Hub geht in die Bestell-Nr. in den letzten drei Ziffern ein.

Beispiel:

26. 2 5 1 125
Kennzahl dw S M Hub
f. Kolben Ø mm

* Intermediate strokes are optionally available up to a max. stroke (see techn. table). The stroke appears as the last three digits in the order no.

Example:

26. 2 5 1 125
key for da S M stroke
piston dia. mm

Zylinder ISO 6432

Doppeltwirkend, mit/ohne Magnetkolben
Ø 16 ... 25 mm

Cylinders ISO 6432

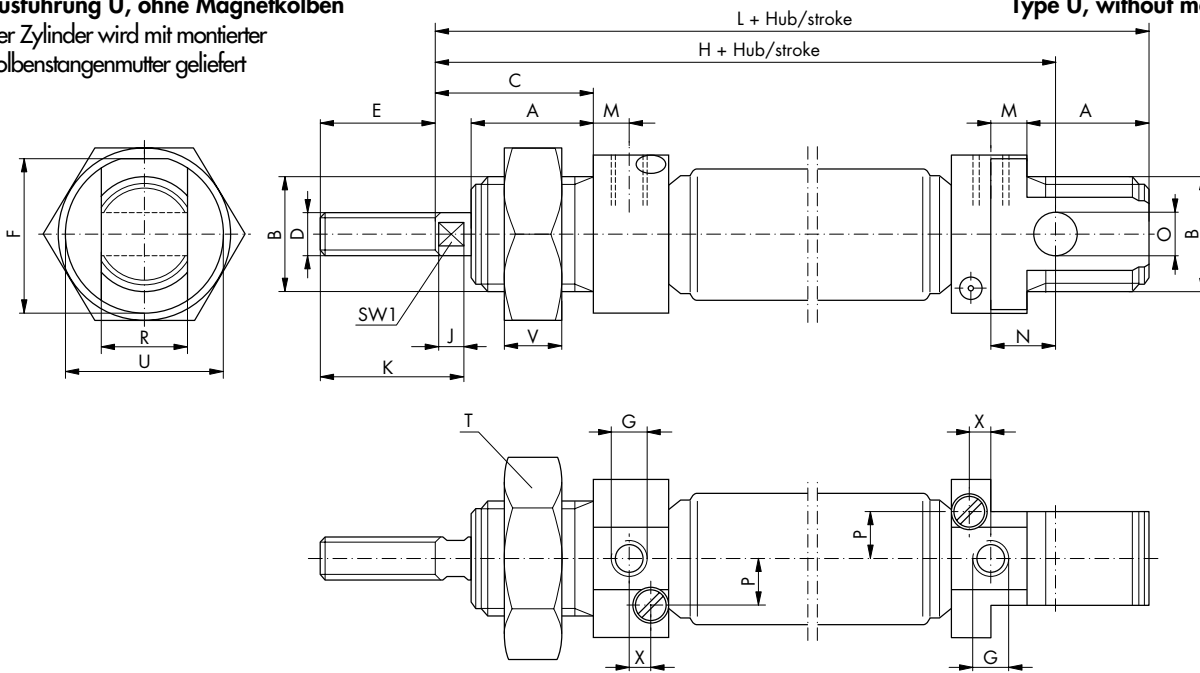
Double Acting, with/without Magnetic Piston
Diameter 16 ... 25 mm

Ausführung U, ohne Magnetkolben

Der Zylinder wird mit montierter Kolbenstangenmutter geliefert

Type U, without magnetic piston

The cylinder is supplied with assembled rod nut



Maßtabelle

Dimensions

Kolben Ø Piston dia. mm	A	B	C	D	E	F	G	H	J	K	L	M	N	O H9	P	R d13	S Ø	T	U	V	X	SW1	SW2
16	17	M16x1,5	22	M6	16	21	M5	82	3,5	19,5	95	5	9	6	6,5	12		24	22	8	3	5	
20	20	M22x1,5	24	M8	20	27	G1/8	95	4	22,5	110	5	12	8	8	16		32	27	10	4	7	
25	22	M22x1,5	28	M10x1,25	22	27	G1/8	104	4	26	119	5	12	8	9	16		32	27	10	4	9	

Kolben Ø Piston dia. mm	Bestell-Nr. *) Standard-Hübe (mm)								Order No. *) Standard strokes (mm)	
	10	25	40	50	80	100	125	160		
16		26.24.025	26.24.040	26.24.050	26.24.080	26.24.100	26.24.125	26.24.160		
20		27.24.025	27.24.040	27.24.050	27.24.080	27.24.100	27.24.125	27.24.160		
25		28.24.025	28.24.040	28.24.050	28.24.080	28.24.100	28.24.125	28.24.160		

Länge der Dämpfung

Length of the cushions

Ø 16	13,5 mm
Ø 20, 25	16 mm

Ø 16	13.5 mm
Ø 20, 25	16 mm

* Zwischenhübe sind auf Wunsch lieferbar bis zum max. Hub lt. Tabelle. Der Hub geht in die Bestell-Nr. in den letzten drei Ziffern ein.

* Intermediate strokes are optionally available up to a max. stroke (see techn. table). The stroke appears as the last three digits in the order no.

Beispiel:

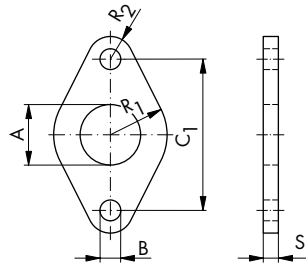
26. 2 4. 125
Kennzahl dw U Hub
f. Kolben Ø mm

Example:

26. 2 4. 125
key for da U stroke
piston dia. mm

Befestigungsflansch*

Werkstoff: Stahl, Oberfläche schwarz



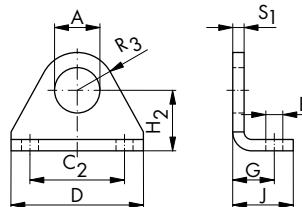
Mounting Flange*

Materials: steel, black surface

Best.-Nr. Order No.	Kolben Ø Piston dia.	A	B	C1	C2	D	E	F	G	H1	H2	J	P	R1	R2	R3	S1	T	U	V	W	X	Z	
23.305	8, 10	12	4,5	30										11	5		3							
26.305	12, 16	16	5,5	40										15	6		4							
28.305	20, 25	22	6,6	50										20	8		5							

Befestigungswinkel*

Werkstoff: Stahl, Oberfläche schwarz



Mounting Bracket*

Materials: steel, black surface

Best.-Nr. Order No.	Kolben Ø Piston dia.	A	B	C1	C2	D	E	F	G	H1	H2	J	P	R1	R2	R3	S1	T	U	V	W	X	Z	
23.312	8, 10	12	4,5		25	35			11		16	16				10	3							
26.302	12, 16	16	5,5		32	42			14		20	20				12,5	4							
28.302	20, 25	22	6,6		40	54			17		25	25				18	5							

* Empfehlung:
Bei 1 Befestigungswinkel/Flansch nur bis
Hub_{max} = 50 mm.

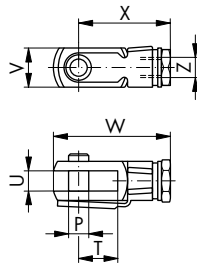
* Recommendation:
When using one mounting bracket/flange to
strokemax = 50 mm only.

Zylinder
ISO 6432
Zubehör
Befestigungszubehör Zylinder

Cylinders
ISO 6432
Accessories
Mounting Accessories Cylinders

Gabelkopf

Werkstoffe: Gabelkopf:
Stahl, verzinkt
Sicherungsbolzen:
Stahl, phosphatiert



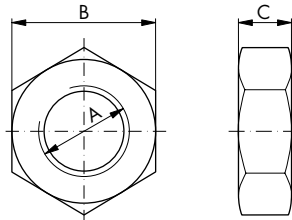
Clevis

Materials: clevis:
steel, galvanized
safety bolt:
steel, phosphorized

Best.-Nr. Order No.	Kolben Ø Piston dia.	A	B	C1	C2	D	E	F	G	H1	H2	J	P	R1	R2	R3	S1	T	U	V	W	X	Z
23.314	8, 10												4					8	4	8	23,2	18,2	M4
19.008.07	12, 16												6					12	6	12	34	27	M6
19.008.08	20												8					16	8	16	42	32	M8
18.008.01	25												10					20	10	20	52	40	M10x1,25

Befestigungsmutter

Werkstoffe: Stahl, verzinkt



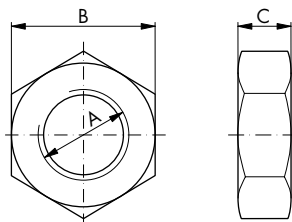
Fixing Nut

Materials: steel, galvanized

Best.-Nr. Order No.	Kolben Ø Piston dia.	A	B	C
JB2200007	8, 10	M12x1,25	19	7
JB2200002	12, 16	M16x1,5	24	8
JB5270001	20, 25	M22x1,5	32	10

Kolbenstangenmutter

Werkstoffe: Stahl, verzinkt



Rod Nut

Materials: steel, galvanized

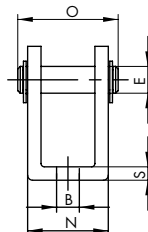
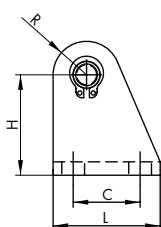
Best.-Nr. Order No.	Kolben Ø Piston dia.	A	B	C
JB2200025	8, 10	M4	7	3
JB2200051	12, 16	M6	10	4
JB2200022	20	M8	13	5
JB2200001	25	M10x1,25	17	8

Zylinder
 ISO 6432
 Zubehör
 Befestigungszubehör Zylinder

Cylinders
 ISO 6432
 Accessories
 Mounting Accessories Cylinders

Lagerbock

Werkstoffe: Lagerbock:
 Stahl, Oberfläche
 schwarz
 Bolzen:
 Stahl, korrosions-
 beständig
 Sicherung:
 Stahl, phosphatiert



Trunnion

Materials: trunnion:
 steel, black surface
 bolt:
 steel, corrosion-
 resistant
 safety:
 steel, phosphorized

Best.-Nr. /Order No.	Ø	B	E	C	H	L	N	O	R	S
23.313	8, 10	4,5	4	12,5	24	20	8,1	17	5	2,5
26.313	12, 16	5,5	6	16	27	25	12,1	23	7	3
28.313	20, 25	6,8	8	20	30	32	16,1	29,5	10	4

Zylinder
ISO 6432
Zubehör
Positionsgeber Reed (2-adrig)

Cylinders
ISO 6432
Accessories
Position Transmitters REED (2 pole)

Technische Daten:

Schaltausgang: Schließer
Schaltleistung: max. 6 W
Schaltspannung: 5 - 50 V AC/DC
Schaltstrom: max. 200 mA
Spannungsabfall: 3 V
Schaltzeit: 0,1 ms
Schaltfrequenz: max. 400 Hz
Lebensdauer: 10⁷ Schaltungen je nach Lastbedingungen

Umgebungs-
temperatur: - 5 °C bis + 75 °C
Schutzart: IP 67
Schaltzustands-
anzeige: LED
Gehäusematerial: Kunststoff

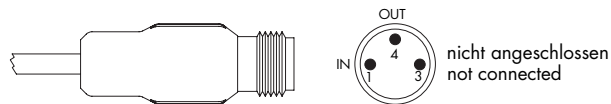
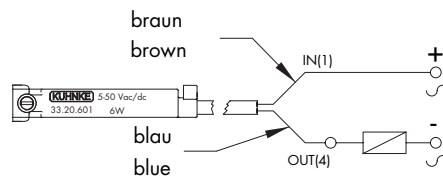
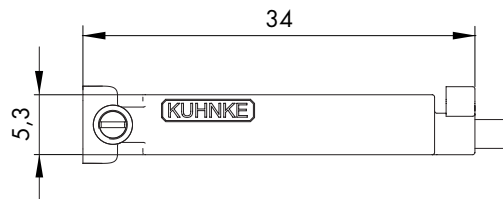


Technical Data:

Switching output: closing contact
Switching capacity: max. 6 W
Switching voltage: 5 - 50 V AC/DC
Switching current: max. 200 mA
Voltage drop: 3 V
Switching time: 0.1 ms
Switching rate: max. 400 Hz
Service life: 10⁷ switchings, depending on electrical load

Ambient temperature range: - 5 °C to + 75 °C
Protection class: IP 67

Status indicator: LED
Housing material: plastic



Kabel 2 x 0,14 mm², 2000 mm lang

Bestell-Nr.	33.20.601
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Cable 2 x 0.14 mm², 2000 mm

Order No.	33.20.601
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Stecker 2-polig, M8, 300 mm Kabel

Bestell-Nr.	33.20.681
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Socket 2 pole, M8, 300 mm cable

Order No.	33.20.681
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Zylinder
ISO 6432
Zubehör
Positionsgeber Reed (3-adrig)

Cylinders
ISO 6432
Accessories
Position Transmitters REED (3 pole)

Technische Daten:

Schaltausgang: Schließer
Schaltleistung: max. 6 W
Schaltspannung: 5 - 30 V AC/DC
Schaltstrom: max. 500 mA
Spannungsabfall: 0,1 V
Schaltzeit: 0,1 ms
Schaltfrequenz: max. 400 Hz
Lebensdauer: 10⁷ Schaltungen je nach Lastbedingungen

Umgebungs-
temperatur: - 5 °C bis + 75 °C
Schutzart: IP 67
Schaltzustands-
anzeige: LED
Gehäusematerial: Kunststoff

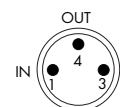
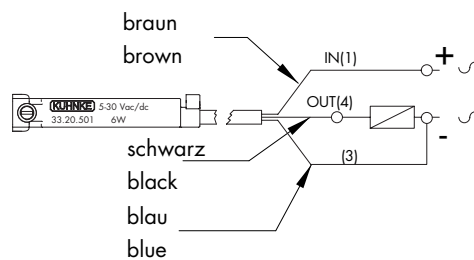
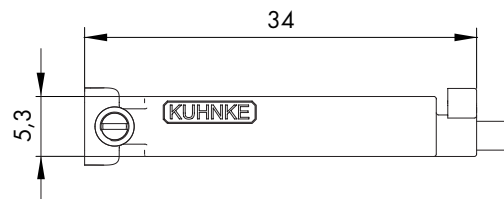


Technical Data:

Switching output: closing contact
Switching capacity: max. 6 W
Switching voltage: 5 - 30 V AC/DC
Switching current: max. 500 mA
Voltage drop: 0.1 V
Switching time: 0.1 ms
Switching rate: max. 400 Hz
Service life: 10⁷ switchings, depending on electrical load

Ambient temperature range: - 5 °C to + 75 °C
Protection class: IP 67

Status indicator: LED
Housing material: plastic



Kabel 3 x 0,14 mm², 2000 mm lang

Bestell-Nr.	33.20.501
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Cable 3 x 0.14 mm², 2000 mm

Order No.	33.20.501
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Stecker 3-polig, M8, 300 mm Kabel

Bestell-Nr.	33.20.581
-------------	-----------

Socket 3 pole, M8, 300 mm cable

Order No.	33.20.581
-----------	-----------

Zylinder
ISO 6432
Zubehör
Positionsgeber elektronisch

Cylinders
ISO 6432
Accessories
Electronic Position Transmitters

Technische Daten:

Schaltausgang: PNP Schließer
Schaltleistung: max. 4 W
Schaltspannung: 10 - 30 V AC/DC
Schaltstrom: max. 200 mA
Spannungsabfall: 0,7 V
Schaltzeit: 0,8 ms
Schaltfrequenz: max. 1 KHz
Lebensdauer: 10¹¹ Schaltungen je nach Lastbedingungen

Umgebungs-
temperatur: - 5 °C bis + 75 °C
Schutzart: IP 67
Schaltzustands-
anzeige: LED
Gehäusematerial: Kunststoff

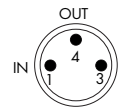
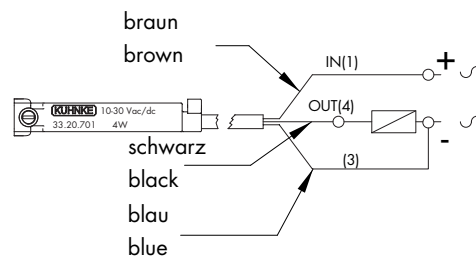
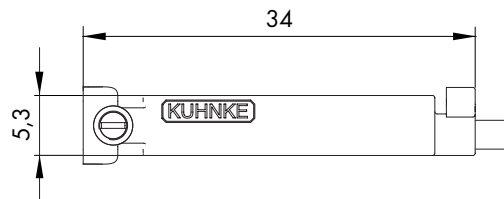


Technical Data:

Switching output: PNP closing contact
Switching capacity: max. 4 W
Switching voltage: 10 - 30 V AC/DC
Switching current: max. 200 mA
Voltage drop: 0.7 V
Switching time: 0.8 ms
Switching rate: max. 1 KHz
Service life: 10¹¹ switchings, depending on electrical load

Ambient temperature range: - 5 °C to + 75 °C
Protection class: IP 67

Status indicator: LED
Housing material: plastic



Kabel 3 x 0,14 mm², 2000 mm lang

Bestell-Nr.	33.20.701
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Cable 3 x 0.14 mm², 2000 mm

Order No.	33.20.701
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Stecker 3-polig, M8, 300 mm Kabel

Bestell-Nr.	33.20.781
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Socket 3 pole, M8, 300 mm cable

Order No.	33.20.781
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Zylinder
ISO 6432
Zubehör Positionsgeber
Befestigungsschellen

Cylinders
ISO 6432
Accessories Position Transmitter
Fastening-Clamps

**Befestigungsschellen für
Zylinder DIN ISO 6432**

Befestigungsschellen für die
Elektronischen Positionsgeber
33.20.701/781
REED-Positionsgeber
33.20.601/681/501/581

Bestell-Nr.	Kolben Ø
33.008.23.01	8
33.008.24.01	10
33.008.25.01	12
33.008.26.01	16
33.008.27.01	20
33.008.28.01	25

(inkl. Befestigungsschraube)



**Fastening-Clamps for
Cylinder DIN ISO 6432**

Fastening-clamps for
electronic position transmitter
33.20.701/781
REED-position transmitter
33.20.601/681/501/581

Order No.	Piston dia.
33.008.23.01	8
33.008.24.01	10
33.008.25.01	12
33.008.26.01	16
33.008.27.01	20
33.008.28.01	25

(incl. mounting screw)

Sensormontage

Sensor Assembly

