

Technical Data Electrical LAMTEC Actuator 20 Nm



Fig. 1 Without position indicator



Fig. 2 With position indicator

Dimensions actuator with cable entry via cable glands

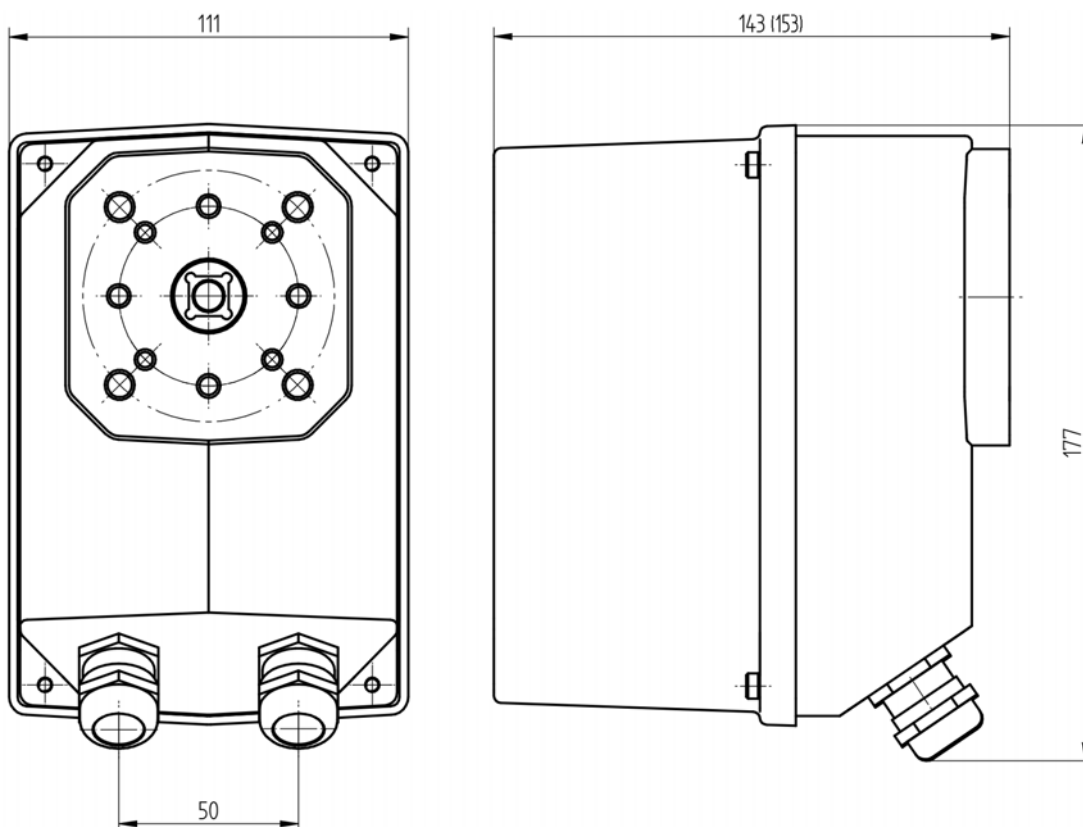


Fig. 3 Dimensioned drawing actuator with cable entry via cable glands

Dimension with standard adaption
F05F07 (H x W x D)

143 x 111 x 177 mm / 5.63 x 4.37 x 4.97" in

Dimension with
Adaption 65 x 50 or
Hole circuit 52 or 68 (H x W x D)

153 x 111 x 177 mm / 6.02 x 4.37 x 4.97" in

Additional space required to open the cover (H)

85 mm / 3.35" in

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Dimensions actuator with cable entry via conduit adapter

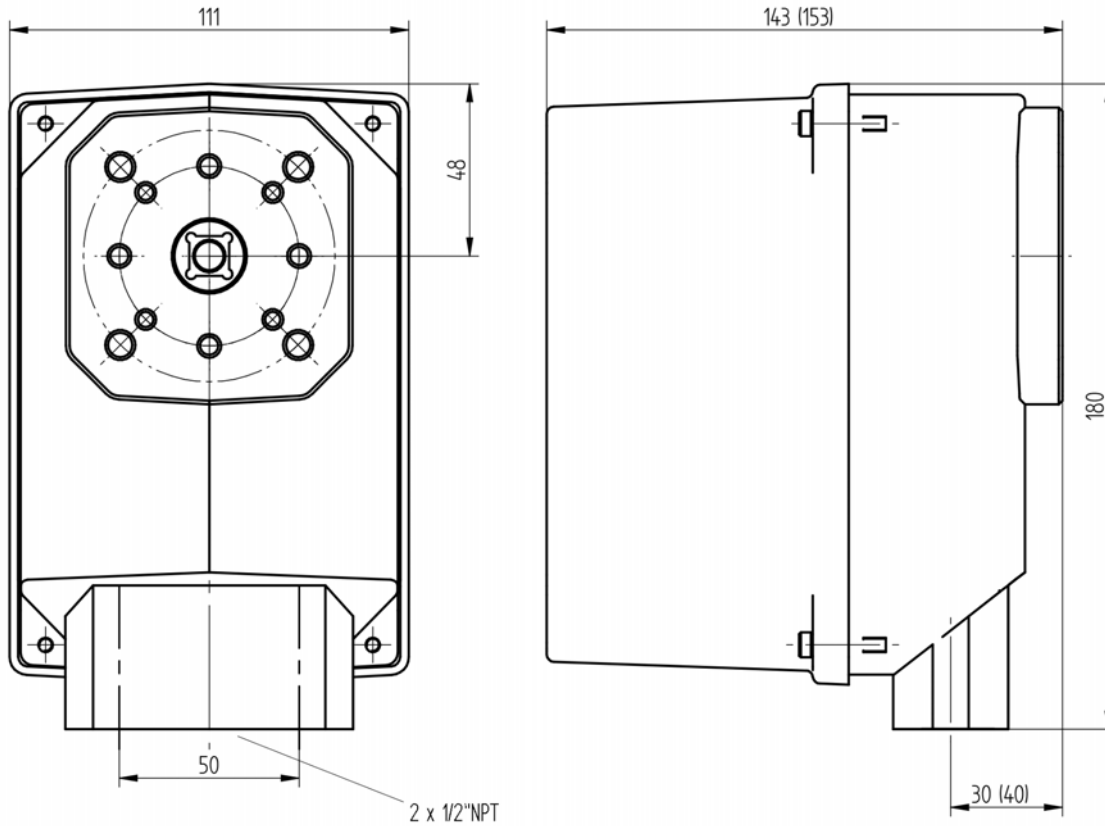


Fig. 4 Dimensions actuator with cable entry via conduit adapter

Dimension with standard adaption
F05F07 (H x W x D)

143 x 111 x 180 mm / 5.63 x 4.37 x 7.09" in

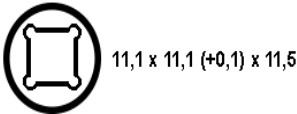
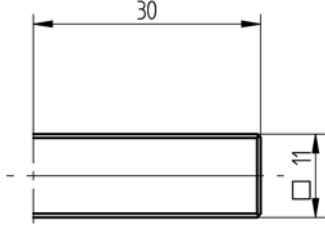
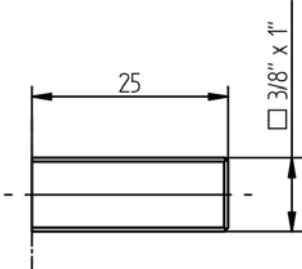
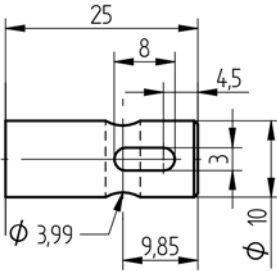
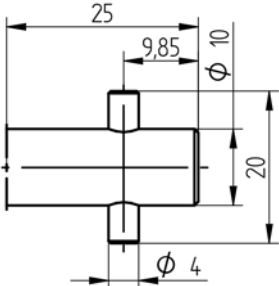
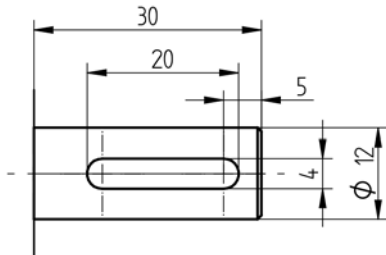

Dimension with
Adaption 65 x 50 or
Hole circuit 52 or 68 (H x W x D)

153 x 111 x 180 mm / 6.02 x 4.37 x 7.09" in

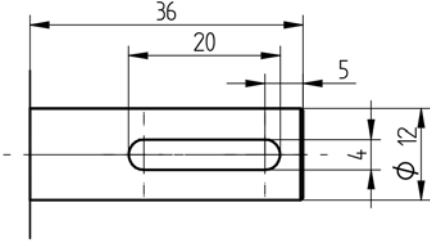
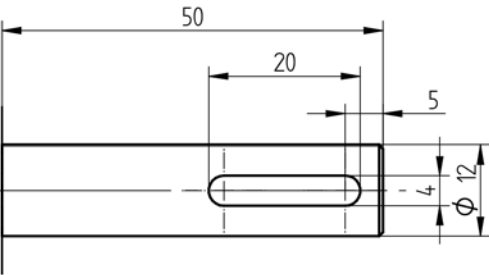
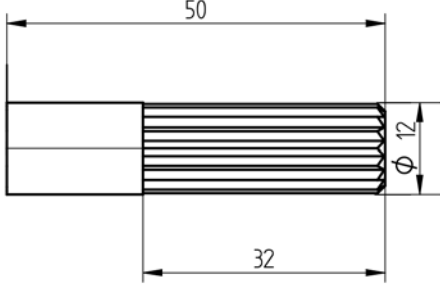
Additional space required to open the cover (H)

85 mm / 3.35" in

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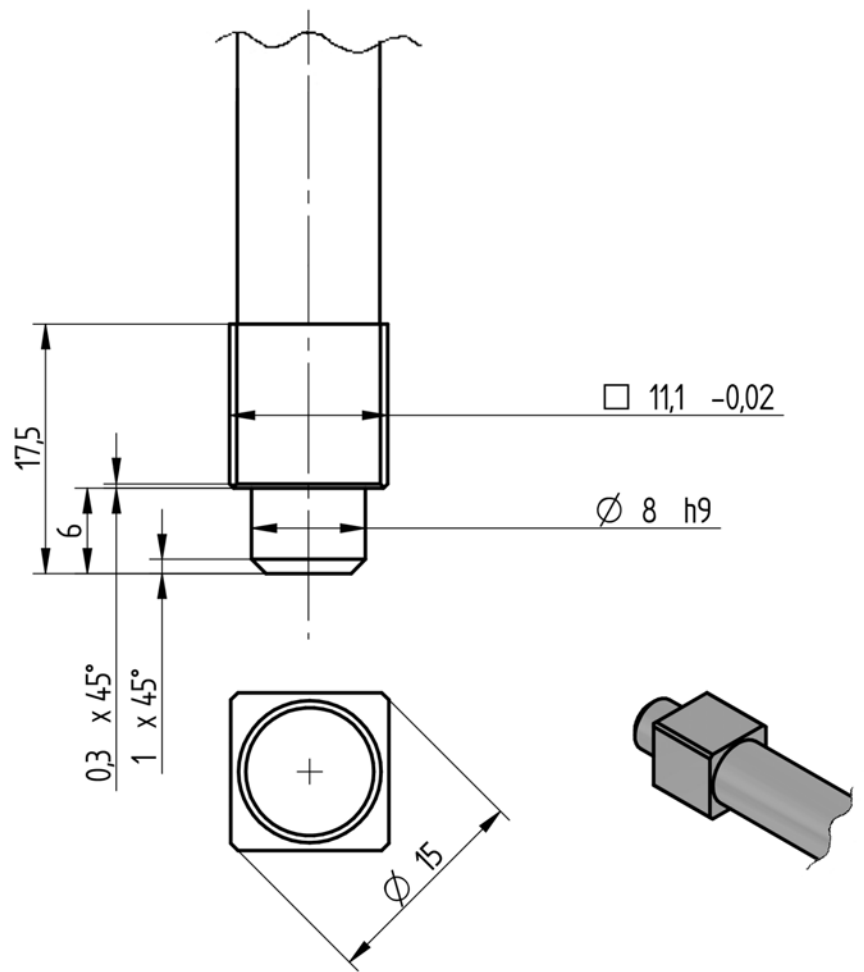
<p>Form of output shaft (IVK11)</p> <p>Internal square</p> <p>11.1 x 11.1 x 11.5 mm / 0.44 x 0.44 x 0.45" in</p>	 <p>11,1 x 11,1 (+0,1) x 11,5</p>	
<p>Form of output shaft (VK11 x 11)</p> <p>Square</p> <p>11 x 11 x 30 mm / 0.43 x 0.43 x 1.18" in</p>		
<p>Form of output shaft (VK38 x 1)</p> <p>Square 3/8" x 1"</p>		
<p>Form of output shaft (10 x 25)</p> <p>Round</p> <p>10 x 25 mm / 0.39 x 0.98" in with parallel key</p> <p>3 x 3 x 8 mm / 0.12 x 0.12 x 0.31" in and cross drilling</p> <p>Only available for 6 Nm and 20 Nm</p>		
<p>Form of output shaft (10 x 25V)</p> <p>Round</p> <p>10 x 25 mm / 0.39 x 0.98" in with cross bolt</p> <p>4 x 20 mm / 0.16 x 0.79" in in vertical position</p> <p>Only available for 6 Nm and 20 Nm</p>		
<p>Form of output shaft (12 x 30)</p> <p>Round</p> <p>12 x 30 mm / 0.47 x 1.18" in with parallel key</p> <p>4 x 4 x 20 mm / 0.16 x 0.16 x 0.79" in</p>		

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<p>Form of output shaft (12 x 36)</p> <p>Round 12 x 36 mm / 0.47 x 1.41" in with parallel key 4 x 4 x 20 mm / 0.16 x 0.16 x 0.79" in</p>	
<p>Form of output shaft (12 x 40)</p> <p>Round 12 x 40 mm / 0.47 x 1.57" in with parallel key 4 x 4 x 20 mm / 0.16 x 0.16 x 0.79" in</p>	
<p>Form of output shaft (KVZD2)</p> <p>Round 12 x 50 mm / 0.47 x 1.97" in with spline 10/12 in according to DIN5481</p>	

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Shape of the pluggable square of the output shafts (actuator side)



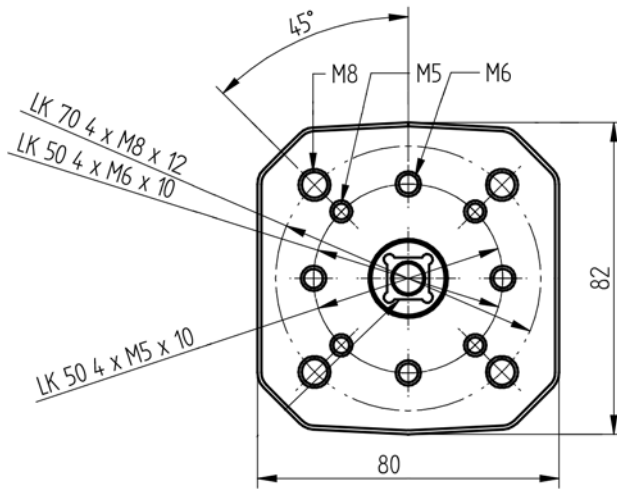
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Adaption (Standard)
(F05F07)

Flange fixing in according to
ISO5211

F05: Ø50 4 x 45° M5 / 4 x M6

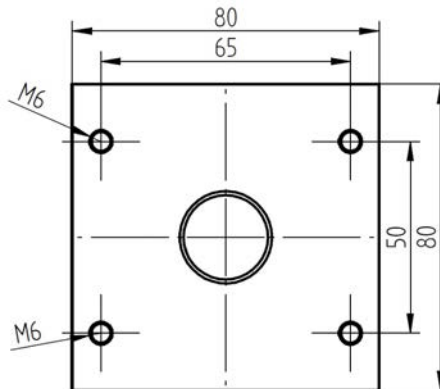
F07: Ø70 4 x 45° M8



Adaption via adapter plate (65 x 50)

Flange fixing
4 x M6, 65 x 50 mm /
2.56 x 1.97" in

This increases the height of the
actuator by 10 mm / 0.39" in.



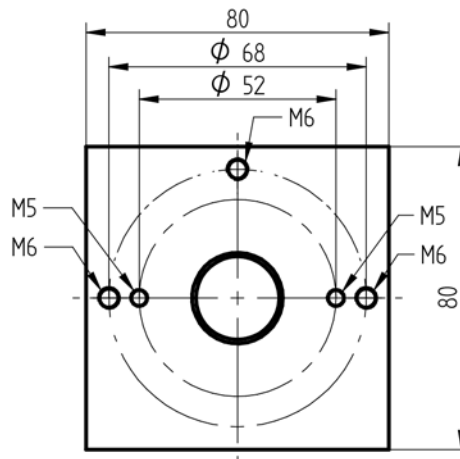
Adaption via adapter plate (LK52)

Flange fixing
Ø 52 mm / 2.05" in 2 x M5

(LK68)

Flange fixing
Ø 68 mm / 2.68" in 3 x M6

This increases the height of the
actuator by 10 mm / 0.39" in.



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Input Data		
668M2020 – 20 NM	Line voltage	230 VAC
	Current consumption (A15)	28 mA
	Capacitor	0.18 µF / 500 V
	Input power synchronous motor	6.45 W
	Output power	1.85 W
optional		
668M2020 – 20 NM	Line voltage	120 VAC
	Current consumption (A15)	55 mA
	Capacitor	0.82 µF/ 250 V
	Input power synchronous motor	6.45 W
	Output power	1.85 W
Overload protection	none	
Running time / angel of rotation (A20-6090)	60 seconds/90° at 50 Hz (48 seconds/90° at 60 Hz)	
Running time / angel of rotation (A20-90135)	optional 90 seconds/135° at 50 Hz (72 seconds/135° at 60 Hz)	
Running time / angel of rotation (A20-120180)	optional 120 seconds/180° at 50 Hz (96 seconds/180° at 60 Hz)	
Position feedback (A25-1PO)	Potentiometer 5 kOhm CONTELEC, conductive plastic according to EN12067-2: 2004 annex C. Connection to output shaft positive and free of backlash according to EN12067-2: 2004 paragraph 6.2.2). Max. angle of rotation angle 180°.	
Position feedback (A25-2PO)	optional Additional position feedback Potentiometer 5 kOhm CONTELEC, conductive plastic according to EN12067-2: 2004 annex C. Connection to output shaft positive and free of backlash according to EN12067-2: 2004 paragraph 6.2.2). Max. angle of rotation angle 180°.	
Position feedback (A25-1NOVO)	optional Potentiometer 5 kOhm NOVOTEC, conductive plastic according to EN12067-2: 2004 annex C. Connection to output shaft positive and free of backlash according to EN12067-2: 2004 paragraph 6.2.2). Max. angle of rotation angle 90°. With NOVOTEC potentiometers, a position indicator or a 2nd potentiometer is not possible.	
Direction of rotation (A30-R)	Rotation to the right (clockwise 12.00 to 3.00 o'clock with view onto the shaft).	
Direction of rotation (A30-L)	optional Rotation to the left (anti-clockwise 12.00 to 9.00 o'clock with view onto the shaft).	

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Colour cover (A45-RT)	Die-cast aluminium, powder-coated RAL 3020 traffic red. Other colours on request
Option Position indicator (A55-POS1)	optional Position indicator in housing cover (Only possible with CONTELEC potentiometer)
Option case heating (A60- HEAT1)	optional Case heater 230 VAC/12 W, down to -30 °C (-22 °F) ambient temperature
Option case heating (A60- HEAT2)	optional Case heater 120 VAC/12 W, down to -30 °C (-22 °F) ambient temperature
Cable entry (A70-00)	without cable gland, 2 x inner thread M20
Cable entry (A70-M20)	2 x cable gland M20 x 1.5, metal, cable Ø min. 8.0 mm / 0.31" in, max. 13.0 mm / 0.51" in
Cable entry (A70-M20KS)	optional 2 x cable gland M20 x 1.5, plastic cable Ø min. 6.0 mm / 0.24" , max. 12.0 mm / 0.47" in
Cable entry (A70-M25)	optional 2 x cable gland M25 x 1.5, metal, cable Ø min. 14.0 mm / 0.55" in, max. 20.0 mm / 0.79" in
Cable entry (A70-M16)	optional 2 x cable gland M16 x 1.5, metal, cable Ø min. 5.0 mm / 0.20" in, max. 9.0 mm / 0.35" in
Cable entry (A70-NPT12)	optional Conduit-Adapter 2 x ½" NPT, metal, cable Ø max. 9.5 mm / 0.37" in
Connecting cable for position feedback	3-pins, shielded 0.52 ... 1.52 (AWG20 ... 14) stripping length 7.5 ... 8.5 mm, 0.5 mm ² ... 1.5 mm ² / 0.30 ... 0.14" in, 21 ... 16 AWG
Connecting cable for Line voltage Controlling Without manual adjusting	4-pins (3+PE) 0.52 ... 2.52 (PE / N / AUF / ZU) stripping length 10 mm, 0.5 mm ² ... 2.5 mm ² / 0.39" in, 21 ... 14 AWG
Connecting cable for Line voltage Controlling With manual adjusting	5-pins (4+PE) 0.52 ... 2.52 (PE / N / L / AUF / ZU) stripping length 10 mm, 0.5 mm ² ... 2.5 mm ² / 0.39" in, 21 ... 14 AWG
Connecting cable for Line voltage Controlling Case heating With / without manual adjusting	5-pins (4+PE) 0.52 ... 2.52 (PE / N / L / AUF / ZU) stripping length 10 mm, 0.5 mm ² ... 2.5 mm ² / 0.39" in, 21 ... 14 AWG
Repeatability	0.2°
Radial bearing force	400 N
Damage pattern by mech. overload	Gear unit defect
Degree of protection in according to DIN EN 60529	IP65, with correctly installed cable glands
Mounting position	In any position
Climate protection equipment	Optional case heating down to -30 °C / (-22 °F)
Board gear	

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Gear wheels/backlash	Spur toothed /max. 1°	
668M2020 – 20NM Torque max. (A03)	20 Nm	Holding torque 10 Nm
Bearing	plain bearing / ball bearing, free of maintenance	
Weight	ca. 2.3 kg / 5.07 lb The weight may vary slightly depending on the configuration.	

Environmental conditions

Storage		In according to DIN EN 60721-3-1, class IE12
	Temperature range	-25 °C ... +55 °C / -13 °F ... 131 °F
	Relative air humidity	< 95 %
Transport		In according to DIN EN 60721-3-2, class IE23
	Temperature range	-25 °C ... +60 °C / -13 °F ... 140 °F
	Relative air humidity	< 95 %
Operation		Class IE36 in according to DIN EN 60721-3-2
	Temperature range	-10 °C ... +60 °C / 14 °F ... 140 °F with additional case heating -30 °C ... +60 °C / -22 °F ... 140 °F
	Relative air humidity	< 95 %

NOTICE

The limits of the technical data must be strictly adhered to.

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Order Information

Electrical Actuator 20 Nm – configuration

Description/Type	Order no.
Electrical actuator 20 Nm, TPS, position feedback potentiometer 5 kohm, conductive plastic, 2 end position switches to limit the actuator, electric hand feed, IP65	668M2020
A05 TORQUE	
A05 TORQUE	Selection
TORQUE 20 Nm	20NM*
A10 FORM OF OUTPUT SHAFT	
A10 FORM OF OUTPUT SHAFT	Selection
SQUARE HOLLOW SHAFT 11 x 11 mm / 0.44 x 0.44" in	IVK11*
SQUARE SHAFT 11 x 11 mm / 0.44 x 0.44" in	VK11
SQUARE SHAFT 3/8" x 1"	VK38x1
ROUND SHAFT 10 x 25 mm / 0.39 x 0.98" in WITH PARALLEL KEY 3 x 3 x 8 mm / 0.12 x 0.12 x 0.31" in	10x25
ROUND SHAFT 12 x 30 mm / 0.47 x 1.18" in WITH PARALLEL KEY 4 x 4 x 20 mm / 0.16 x 0.16 x 0.79" in	12x30
ROUND SHAFT 12 x 36 mm / 0.47 x 1.41" in WITH PARALLEL KEY 4 x 4 x 20 mm / 0.16 x 0.16 x 0.79" in	12x36
ROUND SHAFT 12 x 40 mm / 0.47 x 1.57" in WITH PARALLEL KEY 4 x 4 x 20 mm / 0.16 x 0.16 x 0.79" in	12x40
ROUND SHAFT 12 x 40 mm / 0.47 x 1.97" in, SPLINE 10/12, IN ACC. TO DIN5481 DIN5481	KVZD2
D-SHAFT d1=10 / 0.39 x d2=8.5 / 0.33 x L=25 mm / 0.98" in, INCL. ADAPTER PLATE for VKP-VALVE SIEMENS	D10x25
A15 LINE VOLTAGE	
A15 LINE VOLTAGE	Selection
120 VAC/50 Hz	120VAC
230 VAC/50 Hz	230VAC*
A20 RUNNING TIME / ANGLE OF ROTATION	
A20 RUNNING TIME / ANGLE OF ROTATION	Selection
60 SECONDS / 90° (60 SEC./50 HZ / 48 SEC./ 60 HZ)	6090*
90 SECONDS / 135° (90 SEC./50 HZ / 72 SEC./60 HZ)	90135
120 SECONDS / 180° (120 SEC./50 HZ / 96 SEC./60 HZ)	120180
A25 POSITION FEEDBACK	
A25 POSITION FEEDBACK	Selection
1 x POTENTIOMETER 5 KOHM CONTELEC, CONDUCTIVE PLASTIC, APPROVED IN ACCORDANCE TO EN12067-2, FORM CLOSURE CONSTRUCTION, FREE OF BACKLASH, Position feedback only for CMS	1PO*
2 x POTENTIOMETER 5 KOHM CONTELEC, CONDUCTIVE PLASTIC, APPROVED IN ACCORDANCE TO EN12067-2, FORM CLOSURE CONSTRUCTION, FREE OF BACKLASH, Position feedback only for CMS	2PO
1 x POTENTIOMETER 5 KOHM NOVOTEC, CONDUCTIVE PLASTIC, APPROVED IN ACCORDANCE TO EN12067-2, FORM CLOSURE CONSTRUCTION, FREE OF BACKLASH, Position feedback for ETAMATIC, FMS, VMS, CMS With NOVOTEC potentiometers, a position indicator or a 2nd potentiometer is not possible.	1NOVO
A30 DIRECTION OF ROTATION (view onto the shaft, parallel key at 12.00 o'clock)	
A30 DIRECTION OF ROTATION (view onto the shaft, parallel key at 12.00 o'clock)	Selection
CLOCKWISE (12.00 TO 3.00 O'CLOCK)	R*
ANTI CLOCKWISE (12.00 TO 9.00 O'CLOCK)	L

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A40 ADAPTION	Selection
FLANGE FIXINIG IN ACCORDANCE TO ISO5211 - F05 Ø50 mm / 1.97" in, 4 x 45° M5 / 4 x 45° M6 - F07 Ø70 mm / 2.76" in, 4 x 90° M8	F05F07*
FLANGE FIXINIG Ø52 mm / 2.05" in, 2 x M5 ¹	LK52
FLANGE FIXINIG Ø68 mm / 2.68" in, 3 x M6 ¹	LK68
FLANGE FIXINIG 4 x M6, 65 x 50 mm / 2.56 x 1.97" in ¹	65x50
ADAPTION IN ACCORDANCE TO CUSTOMER SPECIFICATION	

¹ Adaptation via adapter plate. This increases the height of the actuator by 10 mm / 0.39" in.

A45 COLOUR	Selection
COVER RED RAL3020	RT*
COVER BLACK RAL9005	SW
COVER ANTHRACITE RAL7016	AZ
CORROSION PROTECTION CATEGORY C4 COVER and CORPUS RAL7035 LIGHT GREY	C4
Further colours on request	

A50 CUSTOMER	Selection
LAMTEC TYPE	S*

A55 POSITION INDICATOR	Selection
WITHOUT	POS0*
POSITION INDICATOR IN THE COVER	POS1

A60 CASE HEATING	Selection
WITHOUT	HEAT0*
CASE HEATING 230V/12W, DOWN TO -30 °C	HEAT1
CASE HEATING 120V/12W, DOWN TO -30 °C	HEAT2

A70 CABLE ENTRY	Selection
2 x CABLE GLAND M16 METAL	M16
2 x CABLE GLAND M20 METAL	M20*
2 x CABLE GLAND M20 PLASTIC BLACK	M20KS
2 x CABLE GLAND M25 METAL	M25
CONDUIT ADAPTER 2 x ½" NPT	NPT12
CABLE GLAND IN ACCORDANCE TO CUSTOMER SPECIFICATION	

A99 SPECIAL CONFIGURATION	Selection
WITHOUT	SO0*

* Default selection

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Spare parts

Description/Type	Order no.
Potentiometer 5kR CONTELEC, connecting cable with cable end sleeves	668P2001
Potentiometer 5kR NOVOTEC, connecting cable with cable end sleeves	668P2002



only 120 V

The information in this publication is subject to technical changes.



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