

Series HGE / HEG / HHEV Geared Cam Limit Switches



 **Stromag**[®]
Altra Industrial Motion



**DISTRIBUIDOR
AUTORIZADO**

MEX (55) 53 63 23 31
QRO (442) 1 95 72 60

MTY (81) 83 54 10 18
ventas@industrialmagza.com

Stromag

Founded in 1932, Stromag has grown to become a globally recognized leader in the development and manufacture of innovative power transmission components for industrial drivetrain applications. Stromag engineers utilize the latest design technologies and materials to provide creative, energy-efficient solutions that meet their customer's most challenging requirements.

Stromag's extensive product range includes flexible couplings, disc brakes, limit switches, an array of hydraulically, pneumatically, and electrically actuated brakes, and a complete line of electric, hydraulic and pneumatic clutches.

Stromag engineered solutions improve drivetrain performance in a variety of key markets including energy, off-highway, metals, marine, transportation, printing, textiles, and material handling on applications such as wind turbines, conveyor systems, rolling mills, agriculture and construction machinery, municipal vehicles, forklifts, cranes, presses, deck winches, diesel engines, gensets and stage machinery.



VISIT US ON THE WEB AT STROMAG.COM

Altra Motion

Altra is a leading global designer and producer of a wide range of electromechanical power transmission and motion control components and systems. Providing the essential control of equipment speed, torque, positioning, and other functions, Altra products can be used in nearly any machine, process or application involving motion. From engine braking systems for heavy duty trucks to precision motors embedded in medical robots to brakes used on offshore wind turbines, Altra has been serving customers around the world for decades.

Altra's leading brands include **Ameridrives**, **Bauer** Gear Motor, **Bibby** Turboflex, **Boston** Gear, **Delevan**, **Delroyd** Worm Gear, **Deltran**, **Formsprag** Clutch, **Guardian** Couplings, **Huco**, **Jacobs** Vehicle Systems, **Kilian**, **Kollmorgen**, **Lamiflex** Couplings, **Marland** Clutch, **Matrix**, **Nuttall** Gear, **Portescap**, **Stieber**, **Stromag**, **Svendborg** Brakes, **TB Wood's**, **Thomson**, **Twiflex**, **Warner** Electric and **Wichita** Clutch.

VISIT US ON THE WEB AT ALTRAMOTION.COM



CONTENT

Catalog Series HGE / HEG / HHEV: IV

At a Glance	4
Series HGE - Worm Gear Limit Switch	5
Series HGE – Gear Data	6
Series HGE – Housing Types Cxx	7
Series HGE – Housing Types Bxx	8
Series HGE – Option: Mounting Flanges FL, FL160	9
Series HGE – Option: Encoder Preparation	11
Series HGE – Option: Internal Encoder	12
Series HEG – Spur Gear Limit Switch	13
Series HEG – Option: Gear Data	14
Series HEG – Housing Types A1, A2	15
Series HEG – Option: Mounting Flanges FL	16
Series HHEV – Lever Limit Switch	17
Series HHEV – Housing Types A1, A2	18
Series HHEV – Available Levers	19
Series HGE, HEG, HHEV – Available Switches	20
Series HGE, HEG, HHEV – Cam Disc Types	21
Series HGE, HEG, HHEV – Customizable Cam Discs	22
Series HGE, HEG, HHEV – Option: Anti-Condensation-Heating	23
Series HGE, HEG – Option Drive Flange F, F+M	24
Series HGE, HEG, HHEV – Key of Types	25

Stromag Geared Cam Limit Switches

AT A GLANCE



STROMAG SERIES HGE / HEG / HHEV

BENEFITS INCLUDE

- HGE for tight installations (in axial directions)
- Drive of incremental and absolute encoders possible
- Up to 16 contacts
- HEG und HHEV up to 8 contacts

Series HGE – Worm Gear Limit Switch

Revision number: 3.1.4.1-01

Revision date: 19.11.2019

Features

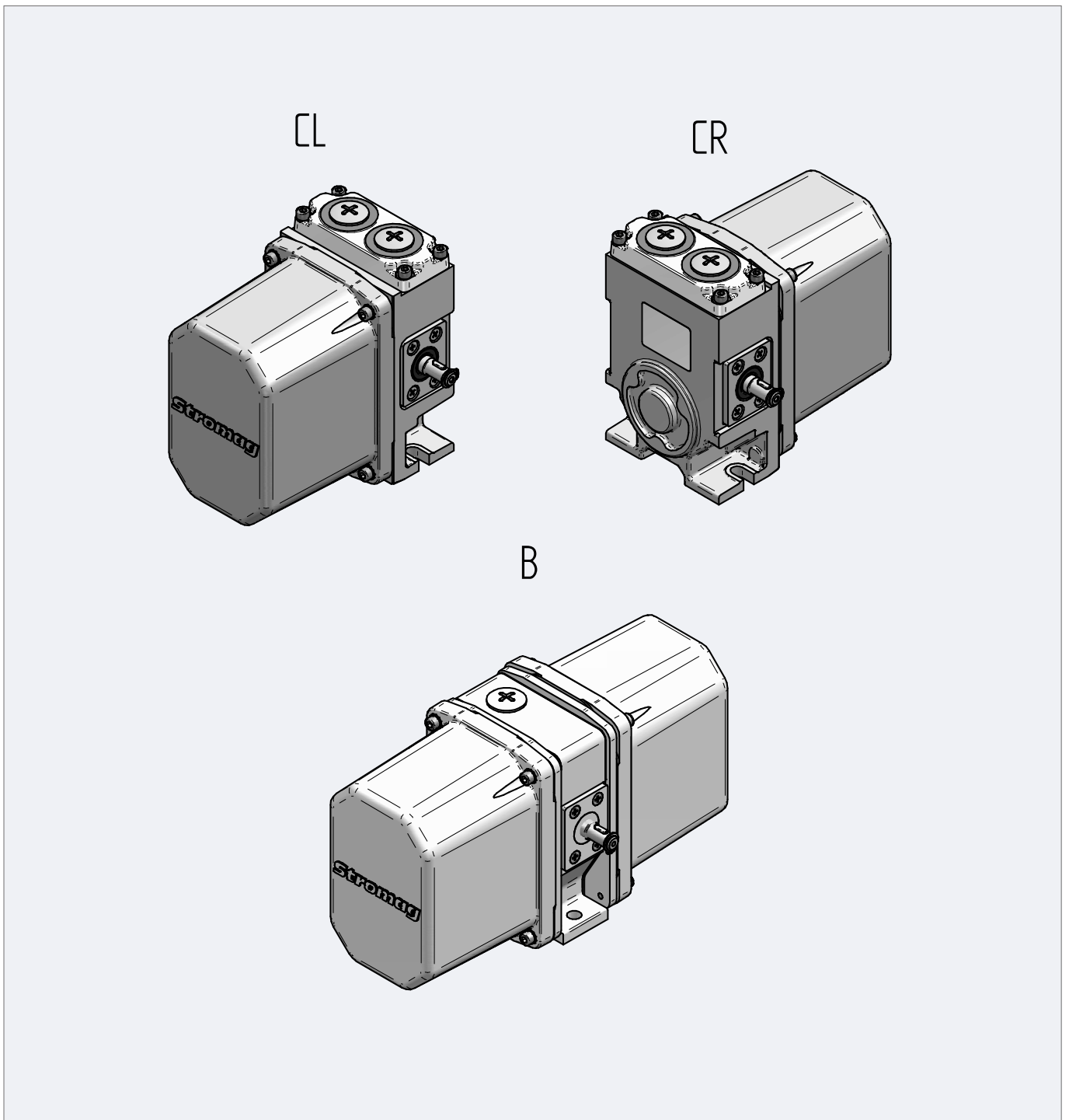
- Sea water resistant aluminium housing protection IP65
- Contact spaces on the left, on the right or on both sides possible

Application

- Crane
- Wind
- Steel works

Additional information

- For tight installations (especially in axial direction)
- Assembly of incremental or absolute multiturn possible



Series HGE / HEG / HHEV Limit Switches

Series HGE – Gear Data

Revision number: 3.1.4.2-01

Revision date: 19.11.2019

Features

- Designed as worm or worm spur gear
- All gear parts made of metal with life-time lubrication

Additional information

- 345, 460 and 715 are special gears on request

I) Gearbox - for contacts 80, 81, 88, 90, 90G with cam discs 40° FV70

Nominal revolutions	Usable revolutions with 40° cam disc	Gear ratio i	Castor revolutions of the drive shaft after each side	Mechanical Hysteresis [revolution at drive shaft]		Max. input speed [min ⁻¹]	Min. input speed for alternating operation [min ⁻¹]			Min. drive torque for switching an individual contact [Nm]	Max. drive torque for forced opening of an individual contact [Nm]
				Contact			Contact				
				80, 90, 90G	88		80, 81	90, 90G	88		
9,5	10,67	12,000	1,333	0,073	0,097	250	3,638	1,819	0,364	0,20	0,371
18	18,29	20,571	2,286	0,125	0,166	250	6,236	3,118	0,624	0,20	0,300
22	22,40	25,200	2,800	0,154	0,203	250	7,639	3,820	0,764	0,20	0,281
29	29,64	33,344	3,705	0,203	0,269	250	10,108	5,054	1,011	0,20	0,261
35	44,44	50,000	5,556	0,305	0,403	500	15,158	7,579	1,516	0,10	0,141
70	76,19	85,714	9,524	0,523	0,691	500	25,984	12,992	2,598	0,10	0,124
85	93,33	105,000	11,667	0,640	0,846	500	31,831	15,915	3,183	0,10	0,120
100	107,25	120,652	13,406	0,736	0,972	500	36,576	18,288	3,658	0,10	0,117
115	123,50	138,933	15,437	0,847	1,120	750	42,118	21,059	4,212	0,10	0,115
155	155,56	175,000	19,444	1,067	1,410	750	53,052	26,526	5,305	0,10	0,112
180	194,18	218,449	24,272	1,332	1,760	750	66,223	33,112	6,622	0,10	0,109
230	230,30	259,091	28,788	1,580	2,088	1.000	78,544	39,272	7,854	0,05	0,058
260	264,08	297,091	33,010	1,811	2,394	1.000	90,064	45,032	9,006	0,05	0,057
305	313,21	352,364	39,152	2,148	2,839	1.000	106,820	53,410	10,682	0,05	0,056
345	352,36	396,409	44,045	2,417	3,194	1.000	120,172	60,086	12,017	0,05	0,055
460	476,00	535,500	59,500	3,265	4,315	1.000	162,338	81,169	16,234	0,05	0,054
715	740,44	833,000	92,556	5,079	6,712	1.000	252,526	126,263	25,253	0,05	0,052

Series HGE – Housing Types Cxx

Revision number: 3.1.4.3-01

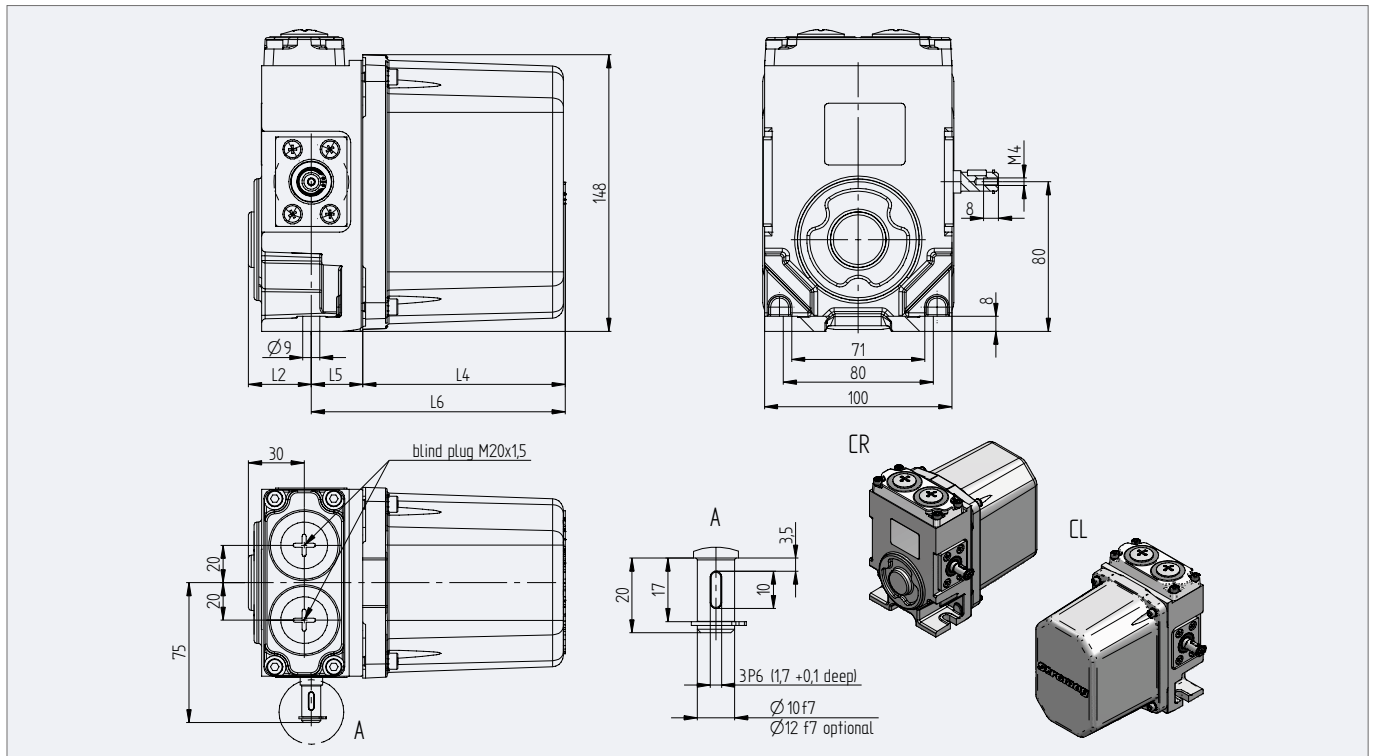
Revision date: 19.11.2019

Features

- Contact space on the left or on the right possible
- Max. of 8 contacts possible for each side

Additional information

- Dimensional drawing for 345,460 and 715 on request



Switch size	Gear size	No. switching contacts	L1 [mm]	L2 [mm]	L3 [mm]	L4 [mm]	L5 [mm]	L6 [mm]	weight [kg]
C1R/C1L	max. 305	max. 5	-	33,5	-	108	27	135	2,80
C2R/C2L	max. 305	max. 8	-	34	-	138	27	165	3,25

Series HGE / HEG / HHEV Limit Switches

Series HGE – Housing Types Bxx

Revision number: 3.1.4.4-01

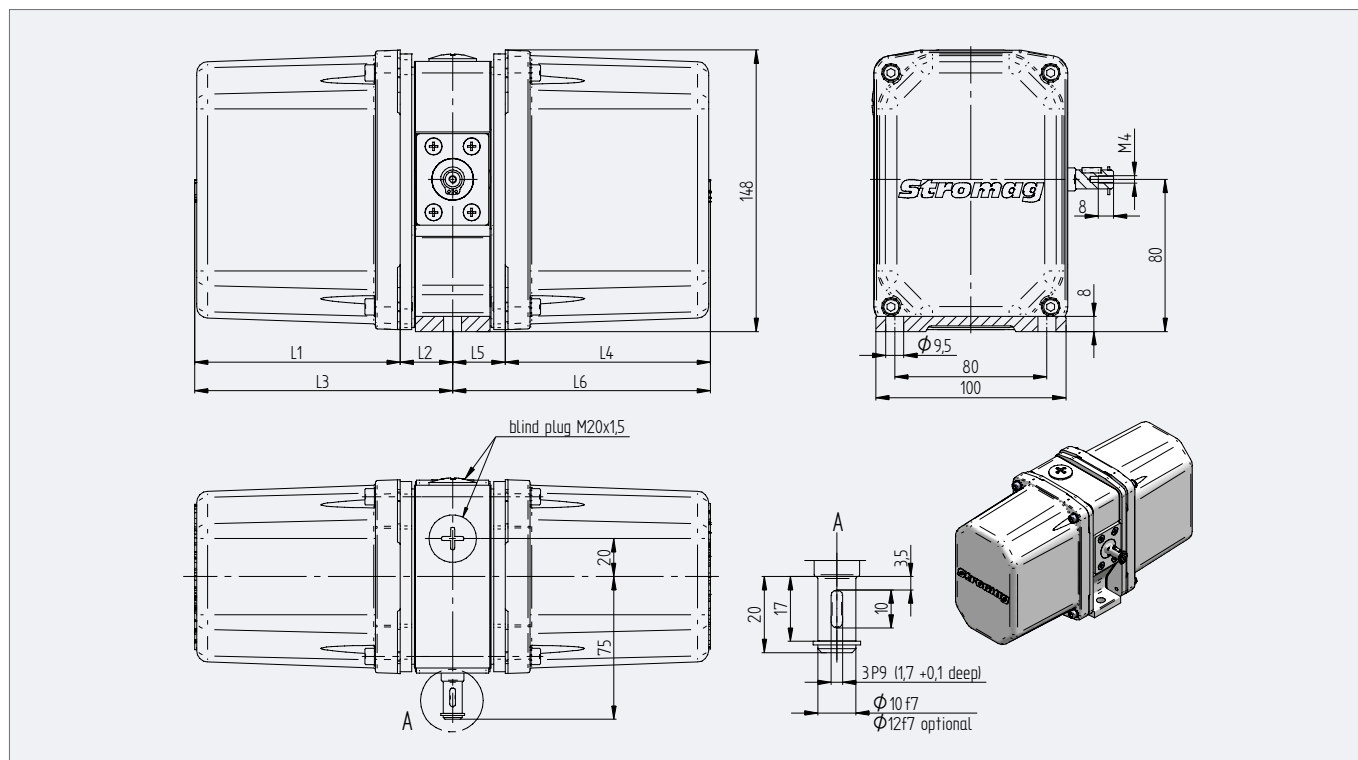
Revision date: 19.11.2019

Features

- Up to 16 contacts possible, max. 8 contacts on each side

Additional information

- Dimensional drawing for 345, 460 and 715 on request



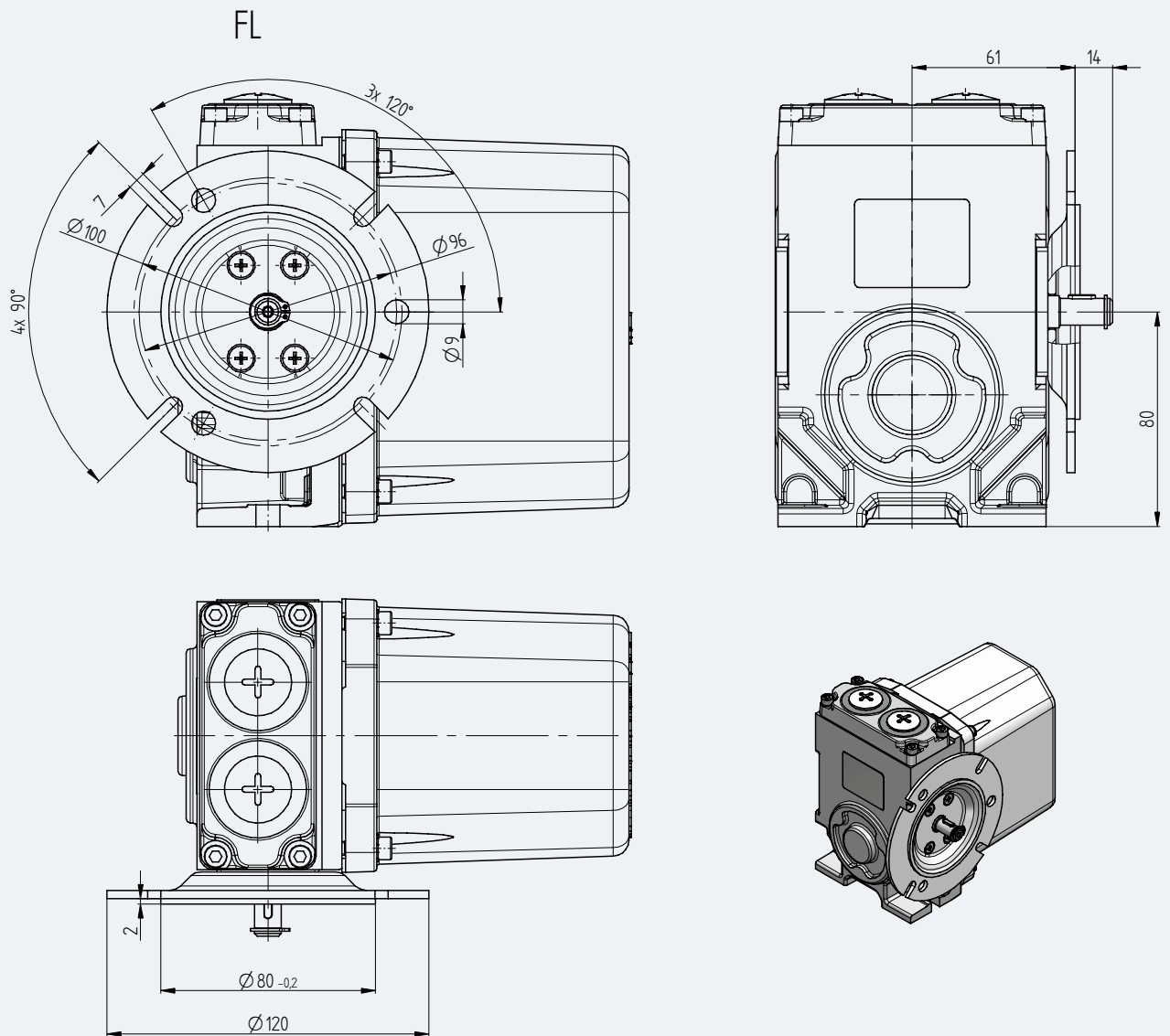
Switch size	Gear size	No. switching contacts	L1 [mm]	L2 [mm]	L3 [mm]	L4 [mm]	L5 [mm]	L6 [mm]	weight [kg]
B11	max. 305	max. 10	108	27	135	108	27	135	3,70
	>305		108	27	135	108	37	145	
B22	max. 305	max. 16	138	27	165	138	27	165	4,40
	>305		138	27	165	138	37	175	

Series HGE – Option: Mounting Flanges FL, FL160

Revision number: 3.1.4.5-01

Revision date: 19.11.2019

Additional weight: 0,10 kg



Series HGE / HEG / HHEV Limit Switches

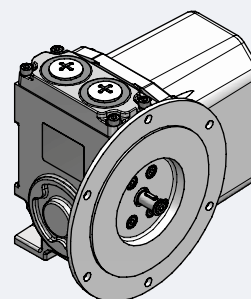
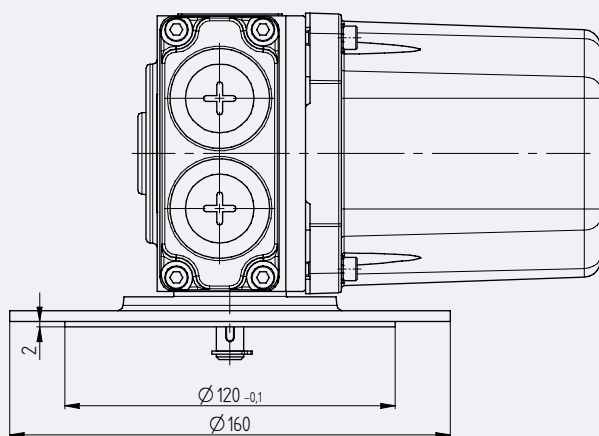
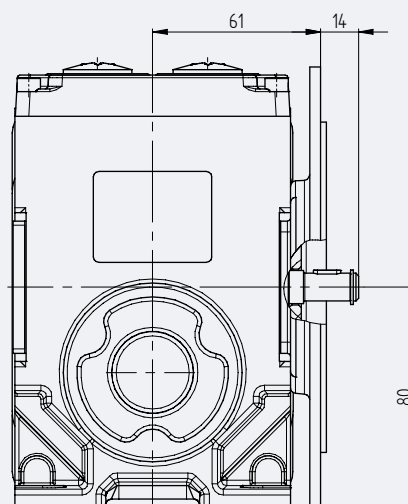
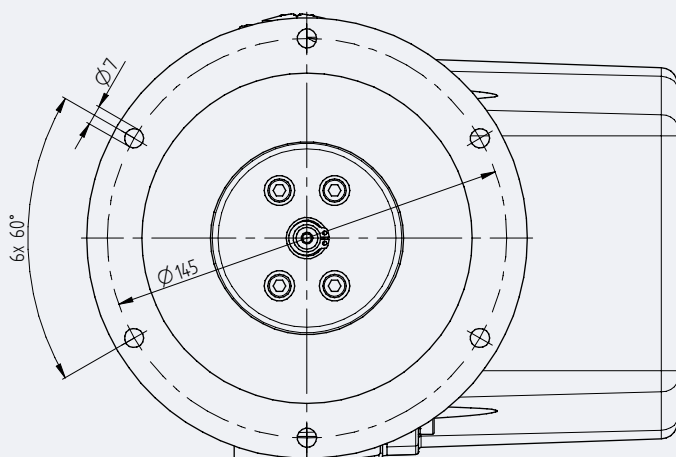
Series HGE – Option: Mounting Flanges FL, FL160

Revision number: 3.1.4.5-01

Revision date: 19.11.2019

Additional weight: 0,27 kg

FL160



Series HGE – Option: Encoder Preparation

Revision number: 3.1.4.6-01

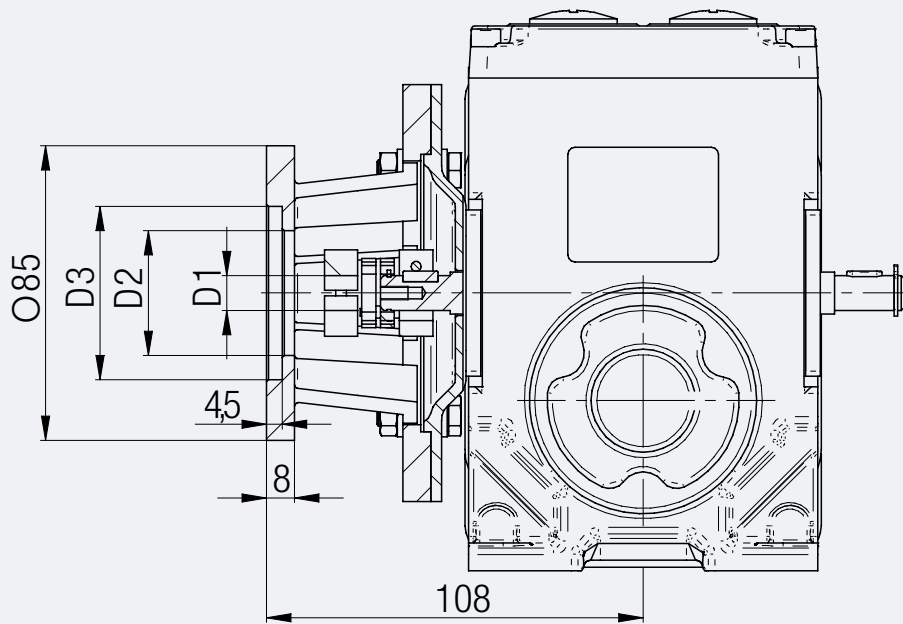
Revision date: 19.11.2019

Features

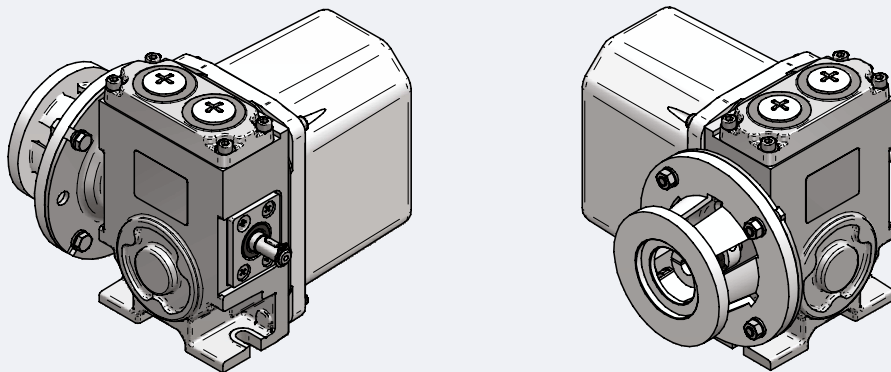
- Preparation for the installation of multi-turn encoders possible, driven by lead through drive shaft

Additional information

- Adaptor for encoders with centering of 36 or 50 mm, other centerings on request
- Connection to the encoder with special encoder coupling



Example: CR



D1 [mm]	D2 [mm]	D3 [mm]
Ø6	Ø36H7 or other	Ø50H7 or other
Ø8		
Ø10		
Ø12		

Series HGE / HEG / HHEV Limit Switches

Series HGE – Option: Internal Encoder

Revision number: 3.1.4.6-01

Revision date: 19.11.2019

Features

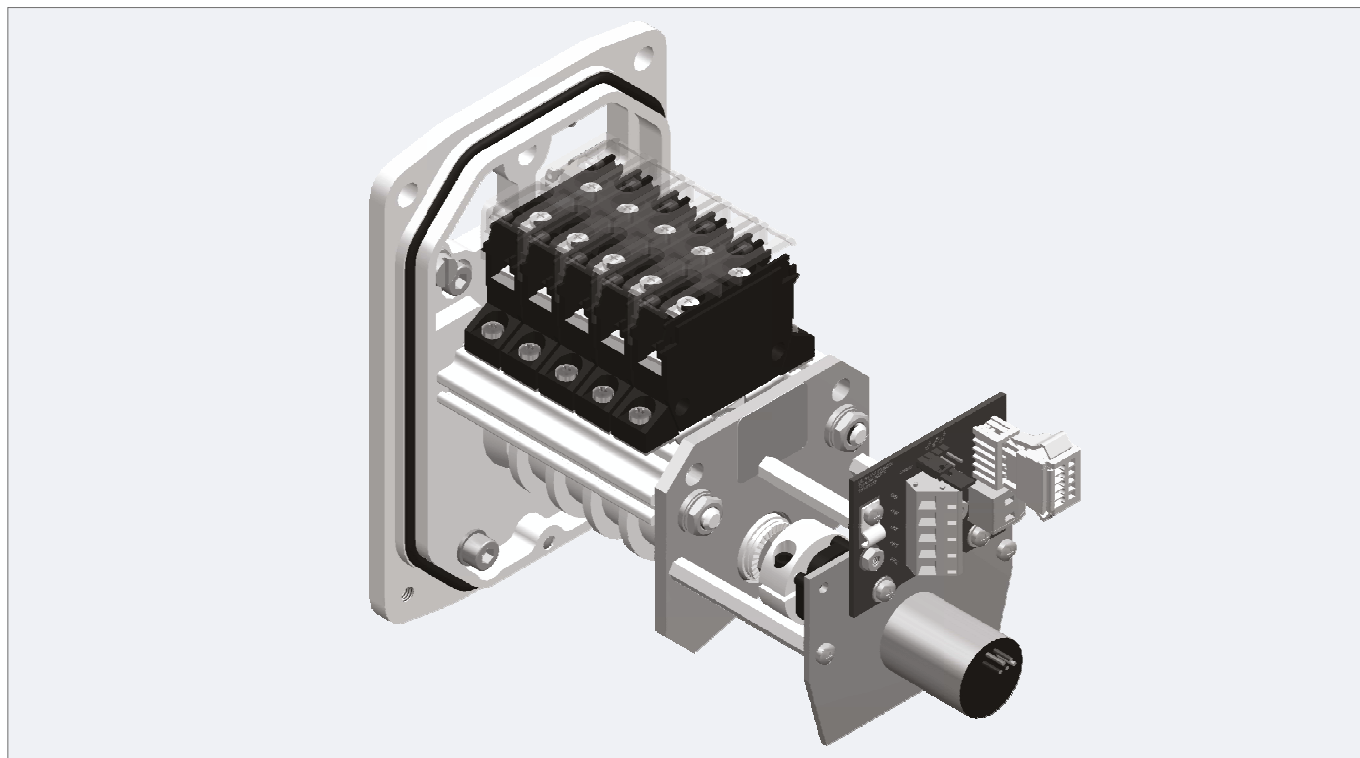
- Contactless measuring method
- Absolute value acquisition
- Long lifetime
- Turning synchronously with the cam discs

Application

- For simple measuring of absolute signals (voltage or current)

Additional information

- Programmable type CW or CCW
- 0 point setting



Type	Current	Voltage
Supply Voltage UBB	18 to 35 VDC (RL = 500 W) 12 to 35 VDC (RL = 200 W)	18 to 35 VDC
Signal output	Iout: 4 to 20 mA (0°...360°)	Uout: 0.1 to 10 V (0°...360°)
Linearity	±0,1% to effective range	±0,1% to effective range
Hysteresis	max. 0,1°	max. 0,1°
Output charge	Load resistor 0...0,5 kW	Load resistor >= 10 kW
Rotary angle mech.	360° rotation possible	360° rotation possible
Temperature range	-40°C to +85°C	-40°C to +85°C
Weight	approx. 100 g	approx. 100 g

Series HEG – Spur Gear Limit Switch

Revision number: 3.1.4.7-01

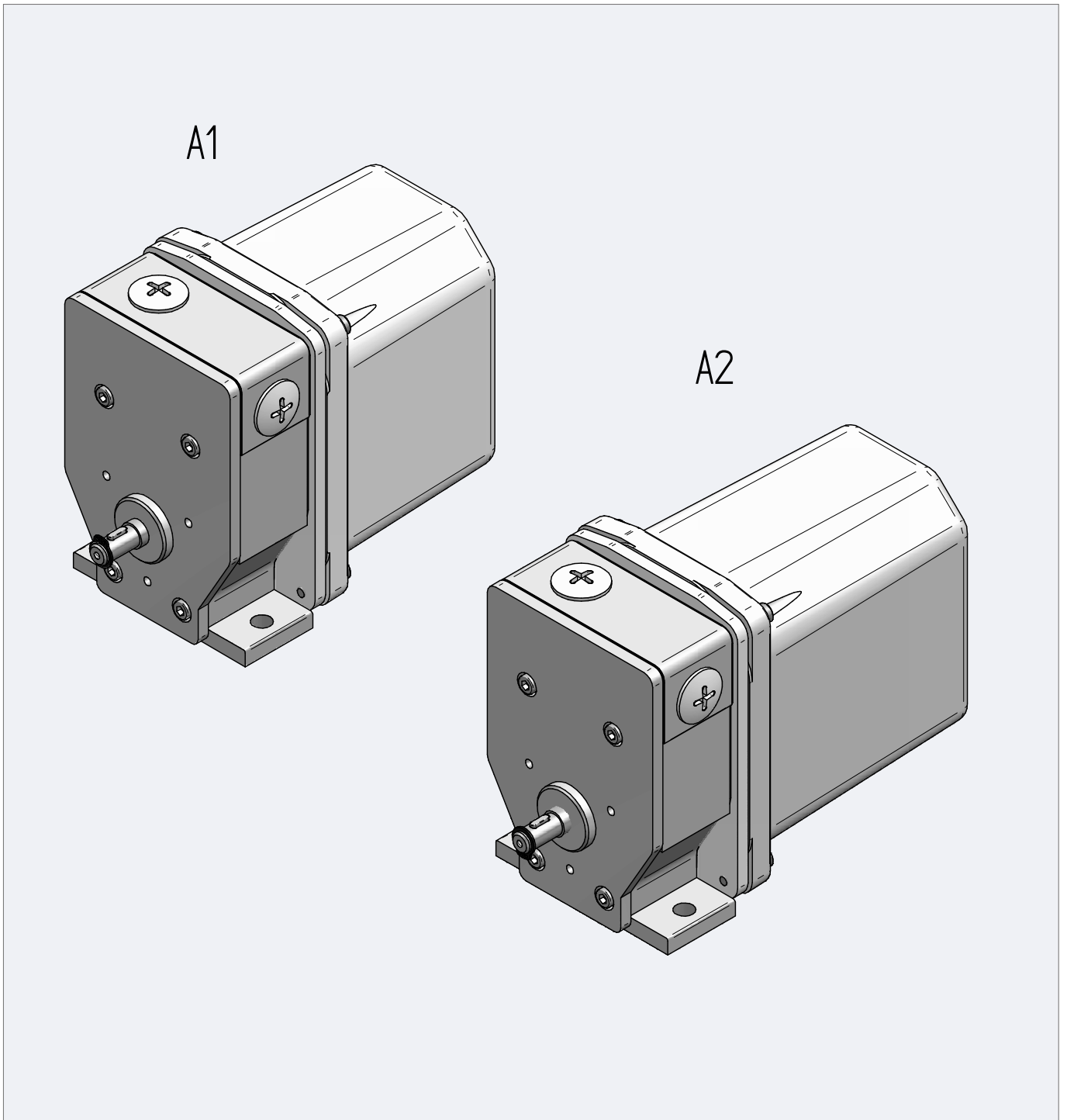
Revision date: 19.11.2019

Features

- Spur gear made of metal
- gear ratios <1 available
- Up to 8 contacts possible

Application

- Crane
- Steel works



Series HGE / HEG / HHEV Limit Switches

Series HEG – Gear Data

Revision number: 3.1.4.8-01

Revision date: 19.11.2019

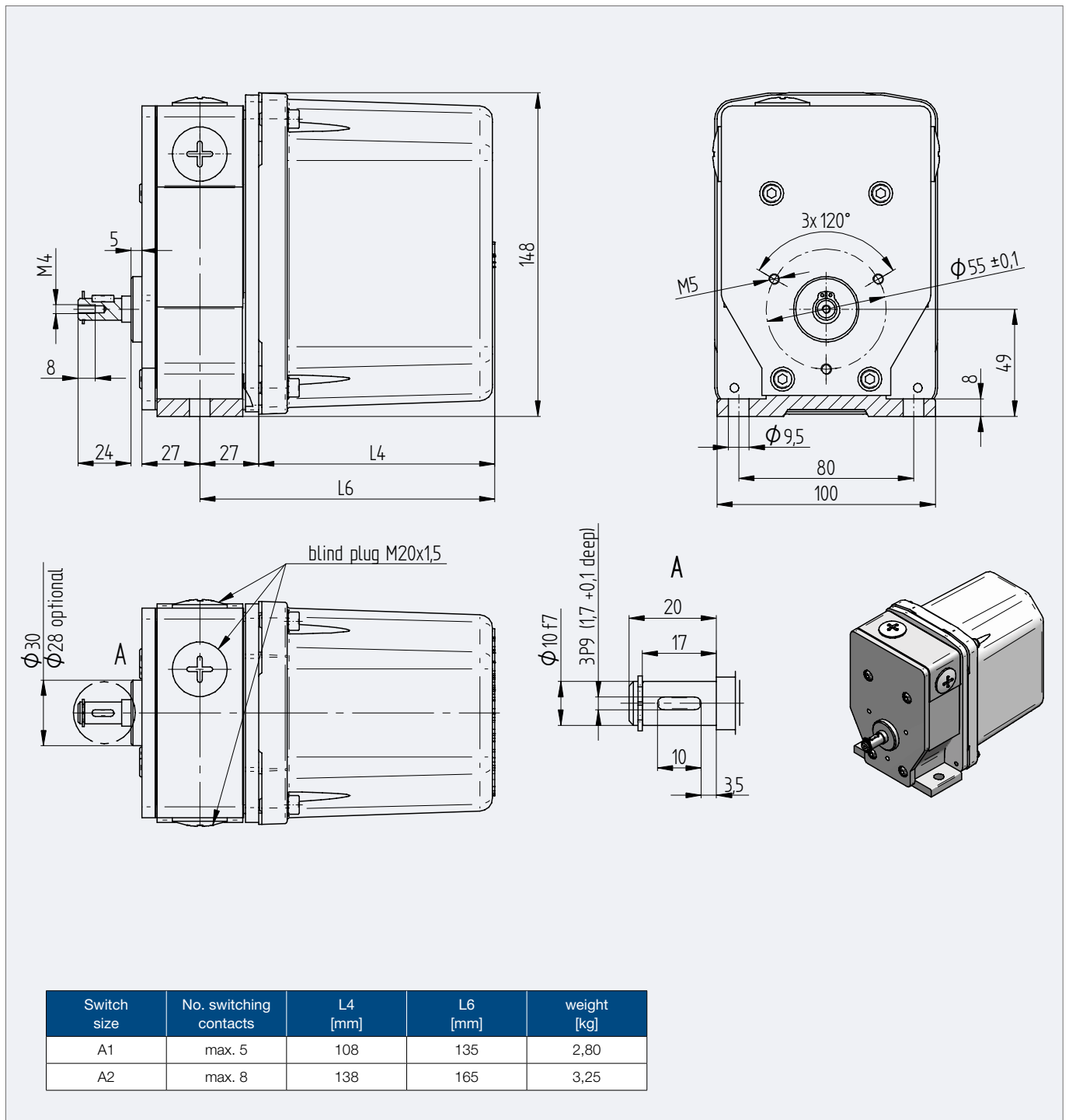
I) Gearbox - for contacts 80, 81, 88, 90, 90G with cam discs 40° FV70											
Nominal revolutions	Usable revolutions with 40° cam disc	Gear ratio i	Castor revolutions of the drive shaft after each side	Mechanical Hysteresis [revolution at drive shaft]		Max. input speed [rpm]	Min. input speed for alternating operation [rpm]			Min. drive torque for switching an individual contact [Nm]	Max. drive torque for forced opening of an individual contact [Nm]
				Contact			Contact				
				80, 90, 90G	88		80, 81	90, 90G	88		
0,15	0,18	0,200	0,022	0,001	0,002	50	0,061	0,030	0,006	0,625	10,238
0,2	0,22	0,250	0,028	0,002	0,002	50	0,076	0,038	0,008	0,500	8,190
0,28	0,30	0,333	0,037	0,002	0,003	50	0,101	0,051	0,010	0,375	6,143
0,38	0,40	0,444	0,049	0,003	0,004	50	0,135	0,067	0,013	0,281	4,607
0,5	0,53	0,600	0,067	0,004	0,005	150	0,182	0,091	0,018	0,208	3,413
1	0,89	1,000	0,111	0,006	0,008	150	0,303	0,152	0,030	0,125	2,048
1,1	1,19	1,333	0,148	0,008	0,011	150	0,404	0,202	0,040	0,094	1,536
1,5	1,60	1,800	0,200	0,011	0,015	150	0,546	0,273	0,055	0,069	1,138
2	2,67	3,000	0,333	0,018	0,024	250	0,909	0,455	0,091	0,042	0,683
2,5	3,56	4,000	0,444	0,024	0,032	250	1,213	0,606	0,121	0,031	0,512
3,5	4,44	5,000	0,556	0,030	0,040	250	1,516	0,758	0,152	0,025	0,410
6	8,00	9,000	1,000	0,055	0,073	250	2,728	1,364	0,273	0,014	0,228

II) Gearbox – for contacts 51 with cam discs 40° FV70, 52, 53 with cam discs 40° FV50 (All gear parts made of metal)											
Nominal revolutions	Usable revolutions with 40° cam disc	Gear ratio i	Castor revolutions of the drive shaft after each side	Mechanical Hysteresis [revolution at drive shaft]		Max. input speed [rpm]	Min. input speed for alternating operation [rpm]		Min. drive torque for switching an individual contact [Nm]	Max. drive torque for forced opening of an individual contact [Nm]	
				Contact			51, 52	53			
				51, 52	53						
0,15	0,17	0,200	0,028	0,002	0,002	50	0,001	0,085	0,446	3,375	
0,2	0,22	0,250	0,034	0,002	0,002	50	0,002	0,106	0,357	2,700	
0,28	0,29	0,333	0,046	0,003	0,003	50	0,002	0,141	0,268	2,025	
0,38	0,38	0,444	0,061	0,004	0,004	50	0,003	0,189	0,201	1,519	
0,5	0,52	0,600	0,083	0,005	0,005	150	0,004	0,255	0,149	1,125	
1	0,87	1,000	0,138	0,008	0,008	150	0,007	0,424	0,089	0,675	
1,1	1,15	1,333	0,183	0,011	0,011	150	0,009	0,566	0,067	0,506	
1,5	1,55	1,800	0,248	0,014	0,014	150	0,013	0,764	0,050	0,375	
2	2,59	3,000	0,413	0,024	0,024	250	0,021	1,273	0,030	0,225	
2,5	3,45	4,000	0,550	0,032	0,032	250	0,028	1,698	0,022	0,169	
3,5	4,31	5,000	0,688	0,040	0,040	250	0,035	2,122	0,018	0,135	
6	7,76	9,000	1,238	0,072	0,072	250	0,064	3,820	0,010	0,075	

Series HEG – Housing Types A1, A2

Revision number: 3.1.4.9-01

Revision date: 19.11.2019



Series HGE / HEG / HHEV Limit Switches

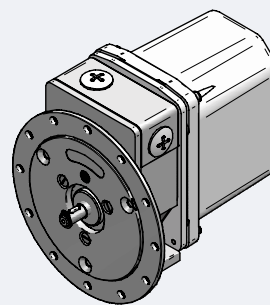
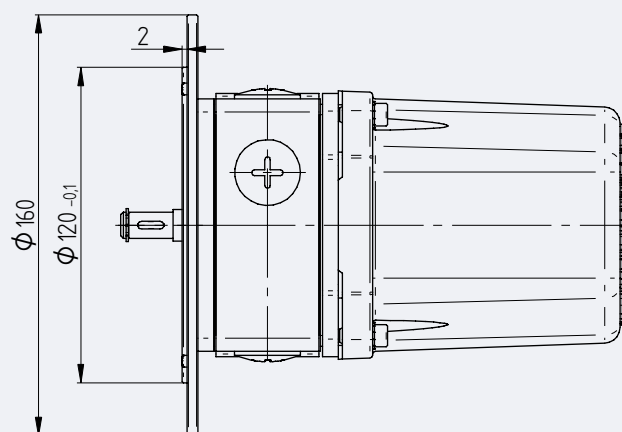
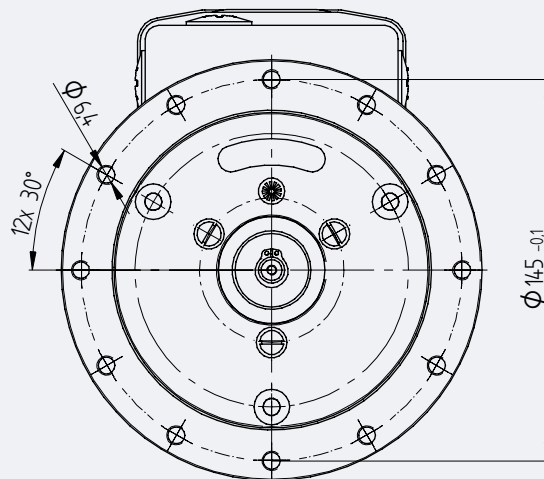
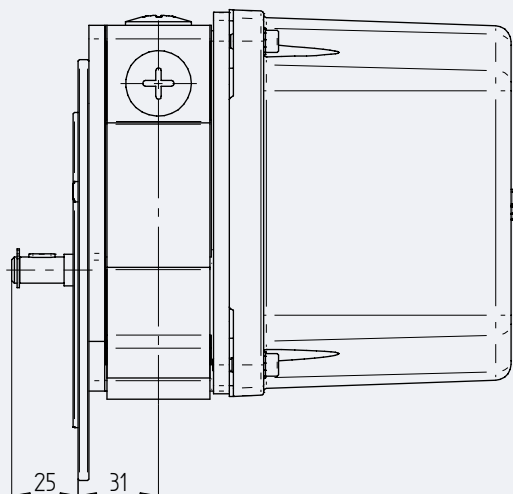
Series HEG – Option: Mounting Flanges FL

Revision number: 3.1.4.10-01

Revision date: 19.11.2019

Additional weight: 0,25kg

FL



Series HHEV – Lever Limit Switch

Revision number: 3.1.4.11-01

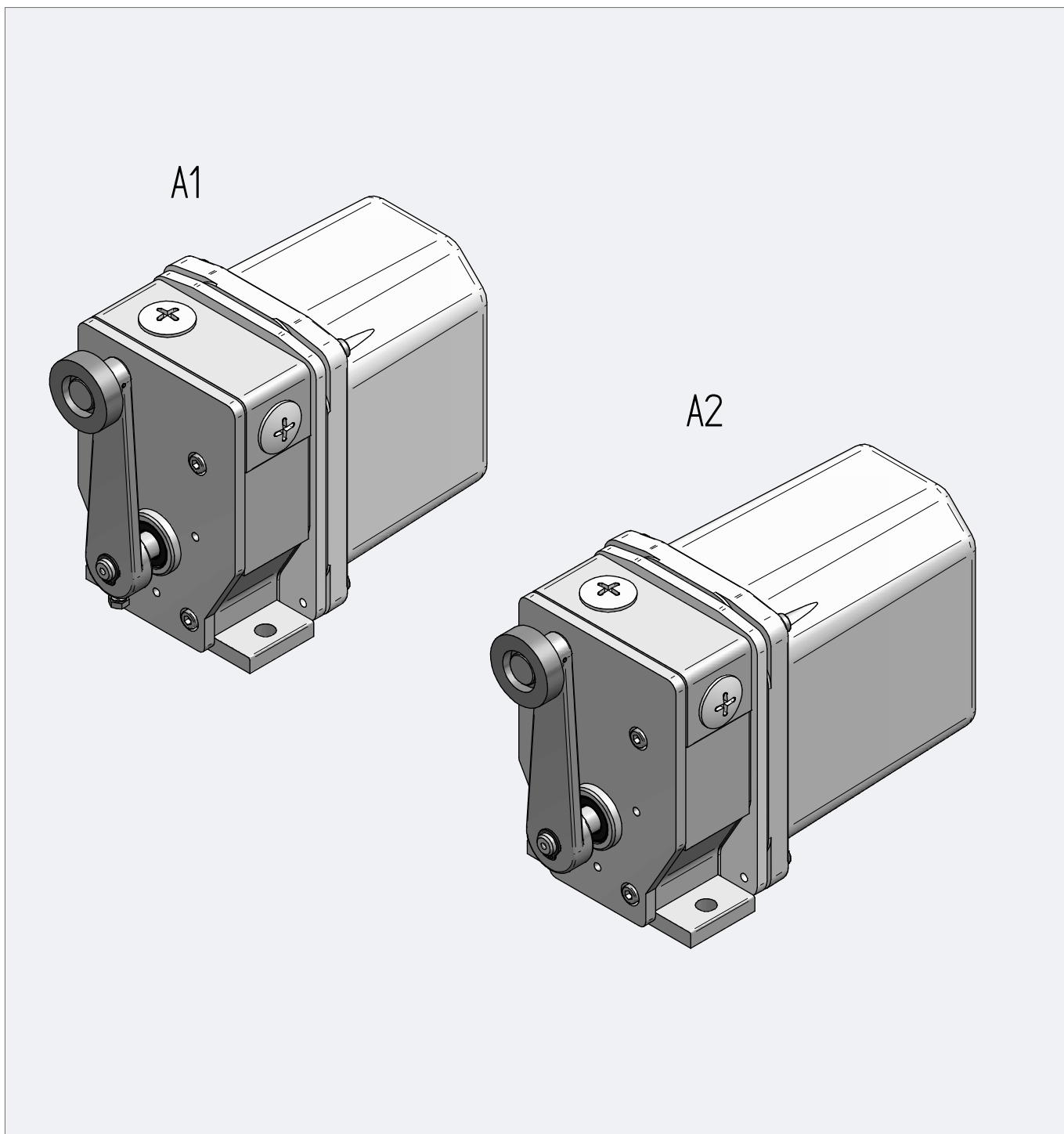
Revision date: 19.11.2019

Features

- Aluminum housing IP65
- Up to 8 contacts possible

Additional information

- Actuation to both sides possible



Series HGE / HEG / HHEV Limit Switches

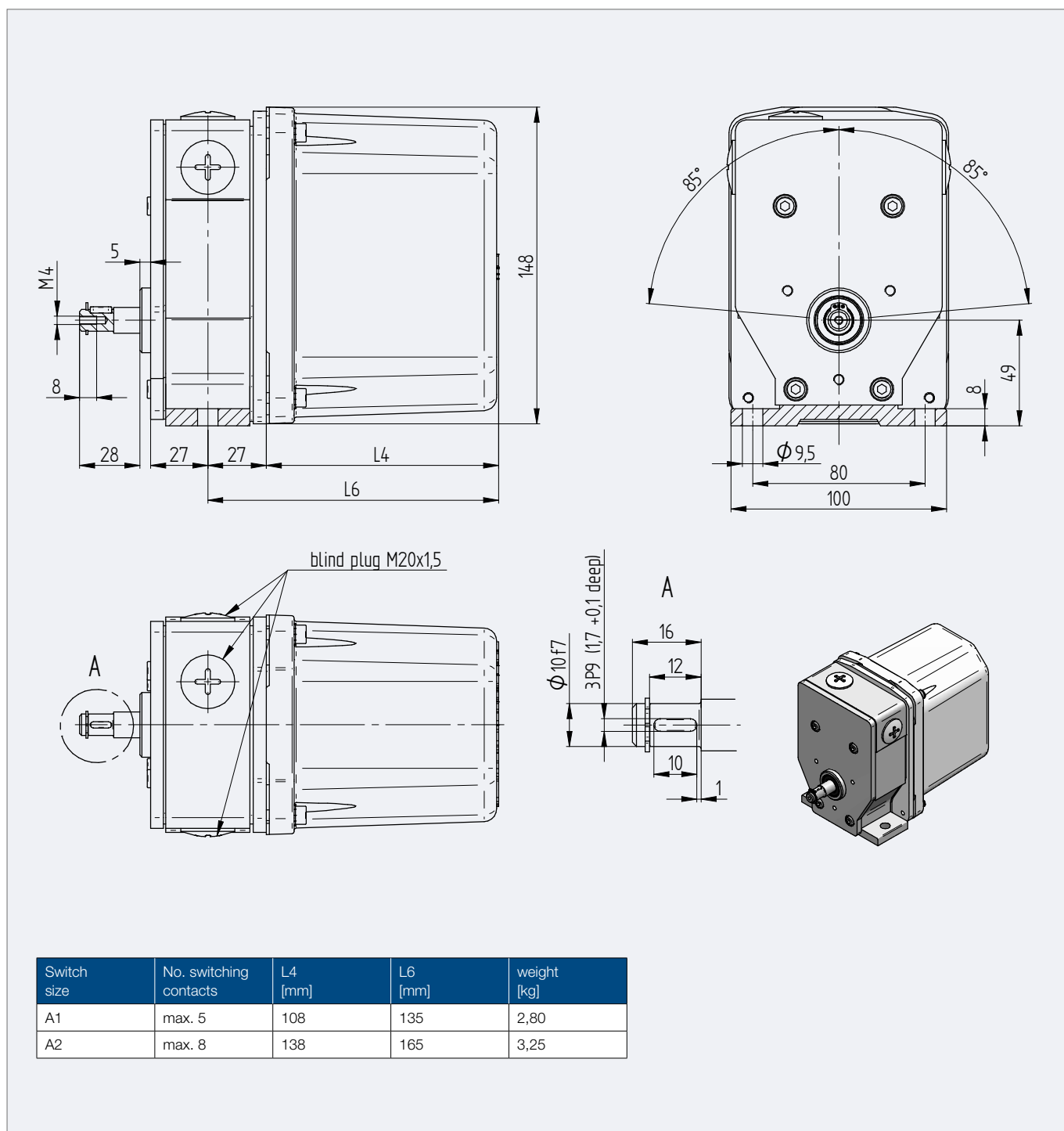
Series HHEV – Housing Types A1, A2

Revision number: 3.1.4.12-01

Revision date: 19.11.2019

Features

- Mechanical limits at +/- 85°
- Cam discs individually adjustable



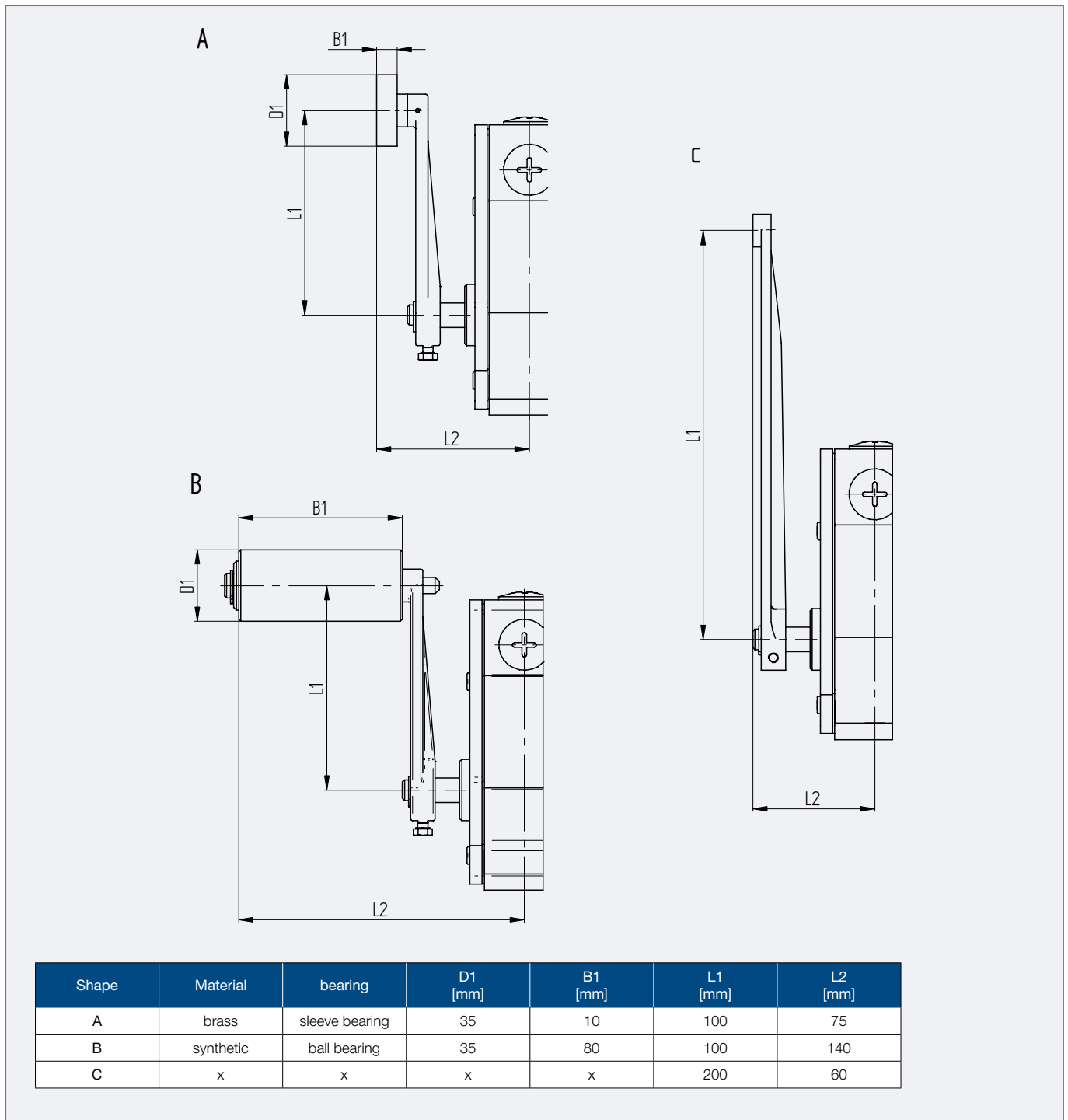
Series HHEV – Available Levers

Revision number: 3.1.4.13-01

Revision date: 19.11.2019

Additional information

- Type „C“ lever (L1=200mm) only for special applications, without spring return function



Series HGE / HEG / HHEV Limit Switches

Series HGE, HEG, HHEV – Available Switches

Revision number: 3.1.4.14-01

Revision date: 19.11.2019

Features

- Snap – and push action contacts available in silver and gold
- Galvanic isolated contacts available
- Positive opening contacts available

Application

- For relays or PLC

The image shows technical drawings of limit switches with contact diagrams and contact types. The contact diagrams are as follows:

Circuit diagram	Type of contact
	80 90 90G
	81
	88
	51
	51
	52 53

Switching contact		Contact material	Switching system		Connection	Electrical data					Additional data			
Designation	Circuit as a changeover	Silver	Gold (PLC-Application)	Snap action switch	Push action switch	Screw terminals: 0,75 - 2,5 mm ² / AWG 14 ... 20	Utilization category acc. to IEC 60947	Conventional thermal current I _{th}	Rated Insulation Voltage U _i	Short circuit protection	Degree of Pollution	Mechanical Lifetime	Positive opening acc. to EN 60947-5-1 Annex K	Operating Temperature
51	•	•	•	•	•	AC-15: 230V, 2,5A DC-13: 24V, 4A	AC-15: 230V, 2,5A DC-13: 24V, 4A	6A	250V	10A gL/gG	PD 2	30x106	•	-30°C ... +85°C *
52	•	•	•	•	•	AC-15: 230V, 2,5A DC-13: 24V, 6A	AC-15: 230V, 2,5A DC-13: 24V, 6A	10A	250V	6A gL/gG	PD 3	1x106	•	-30°C ... +85°C
53	•	•	•	•	•	AC-15: 230V, 2,5A DC-13: 24V, 6A	AC-15: 230V, 2,5A DC-13: 24V, 6A	10A	250V	6A gL/gG	PD 3	1x106	•	-30°C ... +85°C
54	•	•	•	•	•	AC-15: 230V, 2,5A DC-13: 24V, 1A	AC-15: 230V, 2,5A DC-13: 24V, 1A	6A	250V	10A gL/gG	PD 2	30x106	•	-30°C ... +85°C *
80	•	•	•	•	•	AC-15: 230V, 3A DC-13: 110V, 1A	AC-15: 230V, 3A DC-13: 110V, 1A	10A	400V	6A gG	PD 3	10x106	•	-40°C ... +85°C
81	•	•	•	•	•	AC-15: 230V, 3A DC-13: 110V, 1A	AC-15: 230V, 3A DC-13: 110V, 1A	10A	400V	6A gG	PD 3	10x106	•	-40°C ... +85°C
90	•	•	•	•	•	AC-15: 230V, 1A DC-13: 110V, 0,5A	AC-15: 230V, 1A DC-13: 110V, 0,5A	10A	400V	6A gR	PD 3	10x106	•	-40°C ... +85°C
90G	•	•	•	•	•	AC-12: 230V, 0,25A, DC-12: 110V, 0,25A	AC-12: 230V, 0,25A, DC-12: 110V, 0,25A	10A	400V	2A gG	PD 3	10x106	•	-40°C ... +85°C
88	•	•	•	•	•	AC-15: 230V, 1,5A DC-13: 24V, 1,5A	AC-15: 230V, 1,5A DC-13: 24V, 1,5A	10A	400V	10A gG	PD 3	1,5x106	•	-40°C ... +85°C

Series HGE, HEG, HHEV – Cam Disc Types

Revision number: 3.1.4.15-01

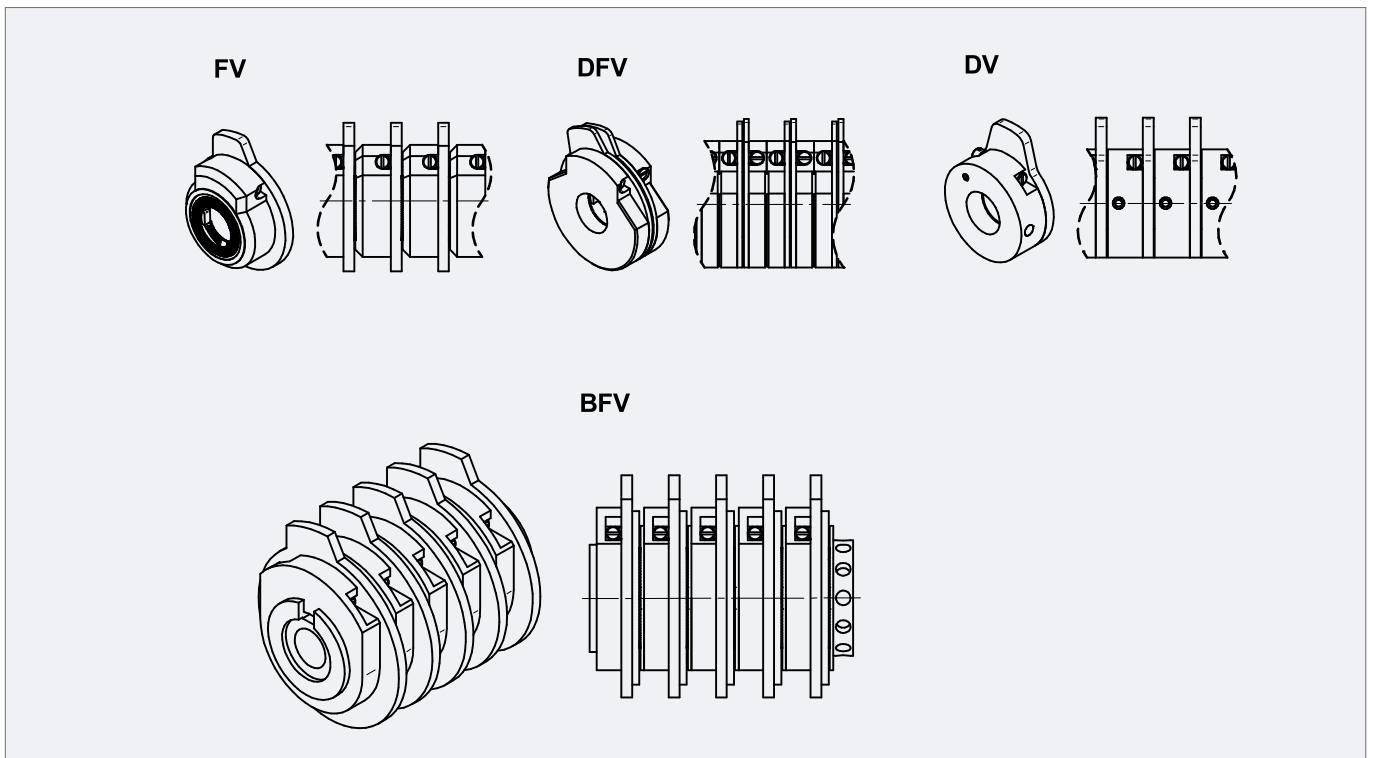
Revision date: 19.11.2019

Features

- Easy adjustable cam discs via self-locking worm, gear ratio of 74
- Large cam disc diameter for high switching point accuracy

Additional information

- FV for normal application
- DFV for flexible adjustment of the cam angle



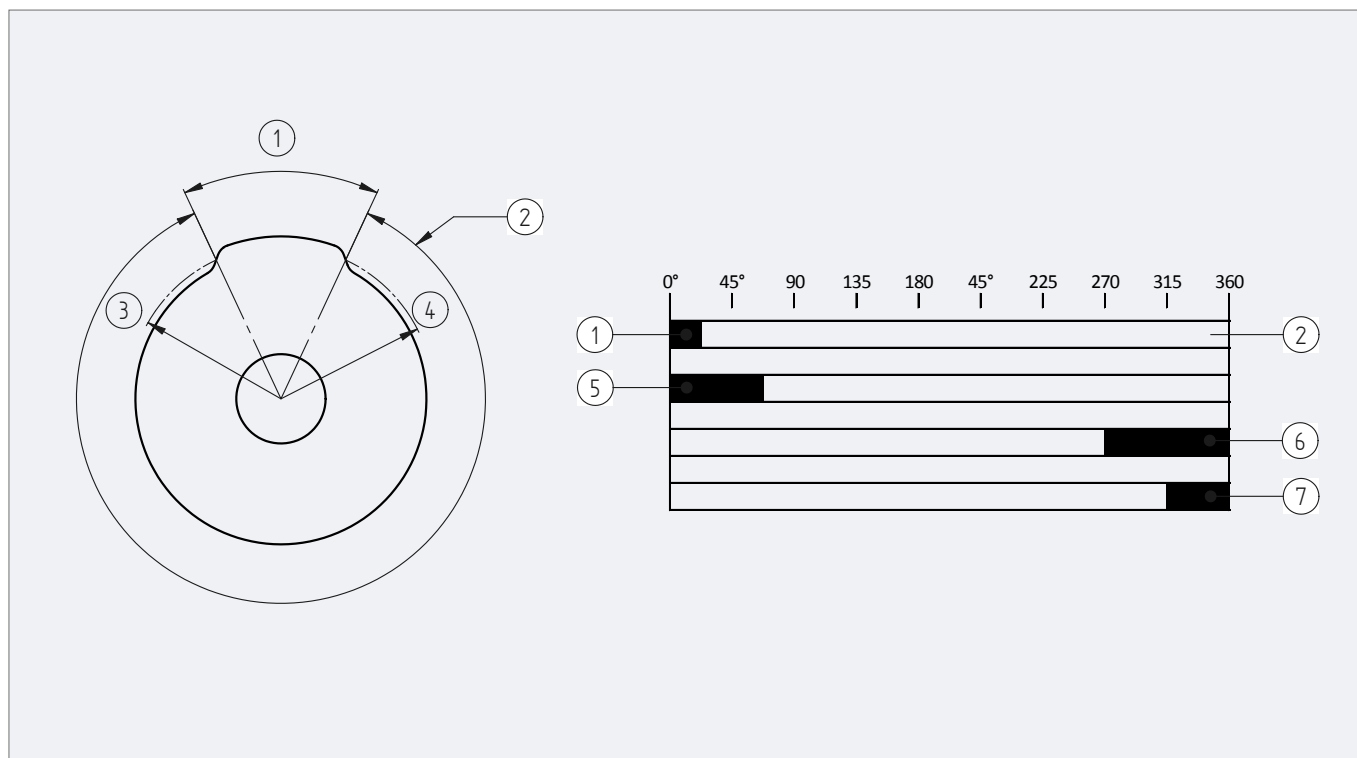
Cam Disc Types	Material	Diameter Cam Disk	Standard Cam Angle	Special Cam Angel	Gradation Cam Angle	precisely adjustable	block adjustment
FV50	synthetic	50mm	40°	other cam angles on request	1°	x	
DFV50	synthetic	50mm	40°		1°	x	
DV50	brass	50mm	40°		1°	x	
FV70	synthetic	70mm	40°		1°	x	
BFV70	synthetic	70mm	40°		1°	x	x

Series HGE / HEG / HHEV Limit Switches

Series HGE, HEG, HHEV – Customizable Cam Discs

Revision number: 3.1.4.16-01

Revision date: 19.11.2019



A Cam angle diagram

- 1 Effective cam angle α (=castor angle)
- 2 Effective cam angle β
- 3 Switching point radius
- 4 Reset point radius

B Application examples

- 1 Effective cam angle 15°
- 5 Effective cam angle 60°
- 6 Effective cam angle 90°
- 7 Effective cam angle 45°

The cam discs are named due to the effective cam angle. The effective cam angle corresponds to the switching point angle on the switching point radius of the cam disc. Standard cam angle for series HEG, HEG, HHEV is 40°.

Any other cam angles (from 15° up to 345°) can be supplied as a special design upon request.

The usable revolutions enabled by a cam disc on the drive shaft, result in the following:

$$U = \frac{\beta * i}{360^\circ} = \frac{(360^\circ - \alpha) * i}{360^\circ} = 1 - \frac{\alpha * i}{360^\circ}$$

- U = Usable revolutions
- α = Effective cam angle
- β = Usable cam angle ($\beta = 360^\circ - \alpha$)
- i = gear ratio

Series HGE, HEG, HHEV – Option: Anti-Condensation-Heating

Revision number: 3.1.4.17-01

Revision date: 19.11.2019

Features

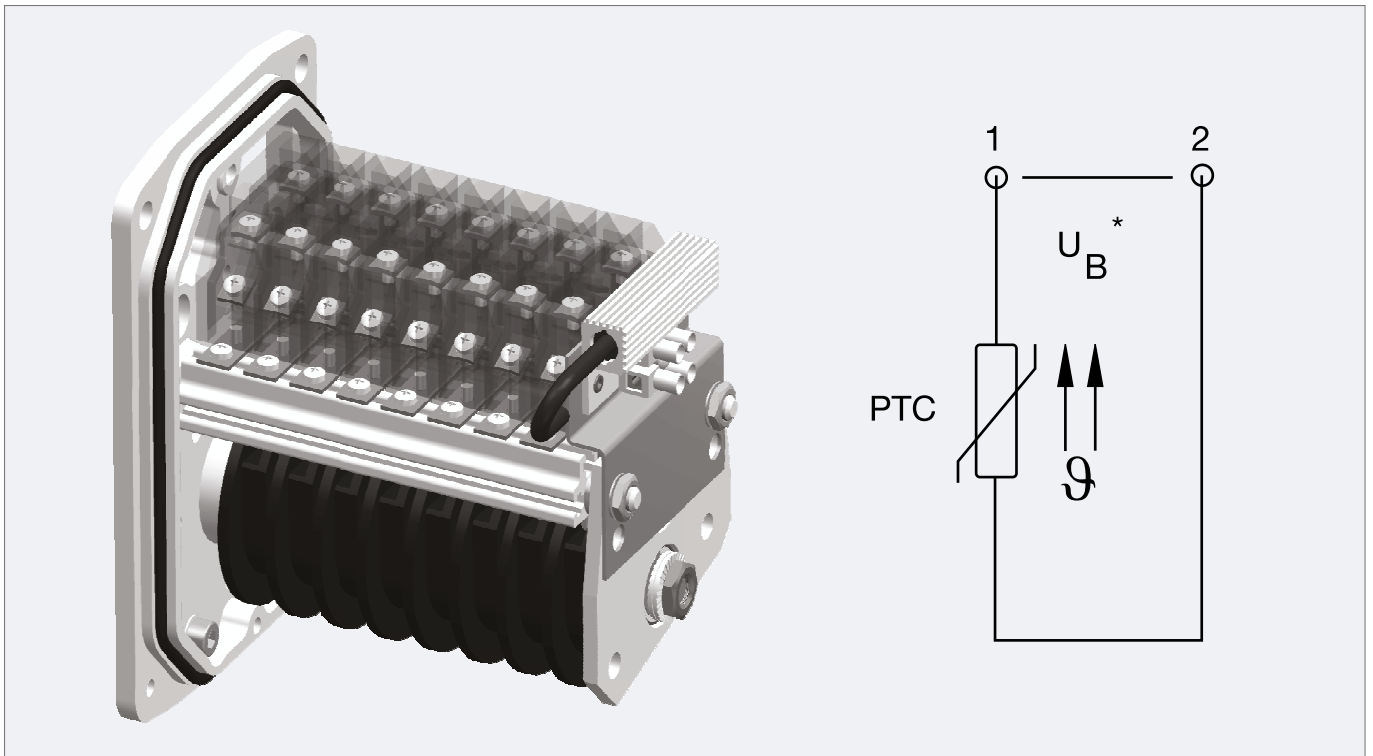
- Self-regulating PTC heating element

Application

- For anti-condensation to avoid condensation water within the geared cam limit switch

Additional information

- Additional safety for usage in low temperatures



Design	H1	H2
Supply Voltage U _{BB}	12 – 36 V AC/DC	110 – 250 V AC/DC
Heat Output	ca. 2.5 Watts	ca. 4 Watts
PTC Cooling resistor (at 25 °C) R ₂₅	20 Ω ± 35 %	1500 Ω ± 35 %
PTC Reference temperature	50 °C	50 °C
Protection class (VDE 0100, 0160)	II	II
Connecting cable	2 x 0,25 mm ² , Silicon cable	2 x 0,25 mm ² , Silicon cable
Radiator	Anodised aluminum	Anodised aluminum
Weight	approx. 40 g	approx. 40 g

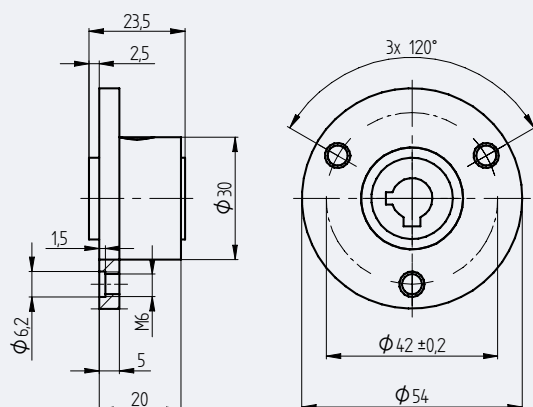
Series HGE / HEG / HHEV Limit Switches

Series HGE, HEG – Option Drive Flange F, F+M

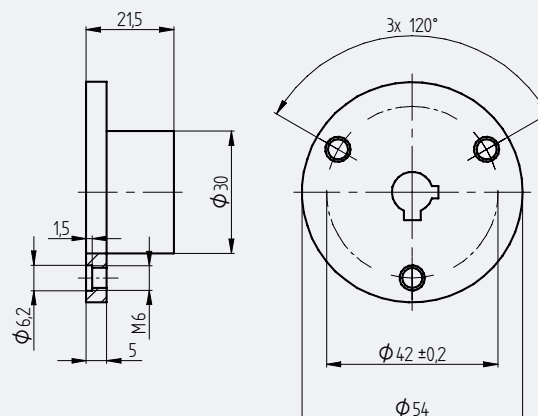
Revision number: 3.1.4.18-01

Revision date: 19.11.2019

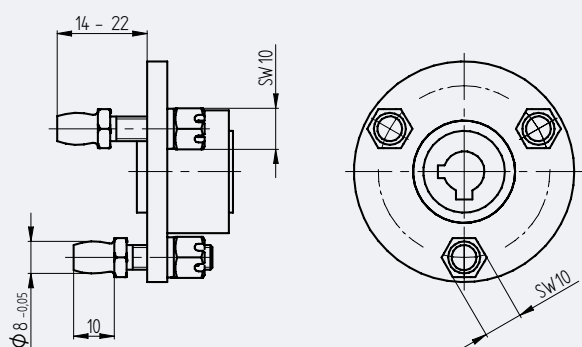
F, flexible



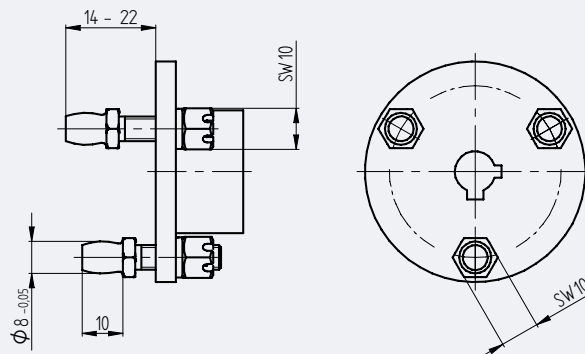
F, non-flexible



F+M, flexible



F+M, non-flexible




Flange	Type	Operating speed	Torsion angle (with a torque of 5 Nm)	Comment
F	flexible	$n_{max} = 1000$ rpm	$5 \pm 0.5^\circ$	not for HHEV
F	non-flexible	$n_{max} = 1000$ rpm	0°	not for HHEV
F+M	flexible	$n_{max} = 1000$ rpm	$5 \pm 0.5^\circ$	not for HHEV
F+M	non-flexible	$n_{max} = 1000$ rpm	0°	not for HHEV

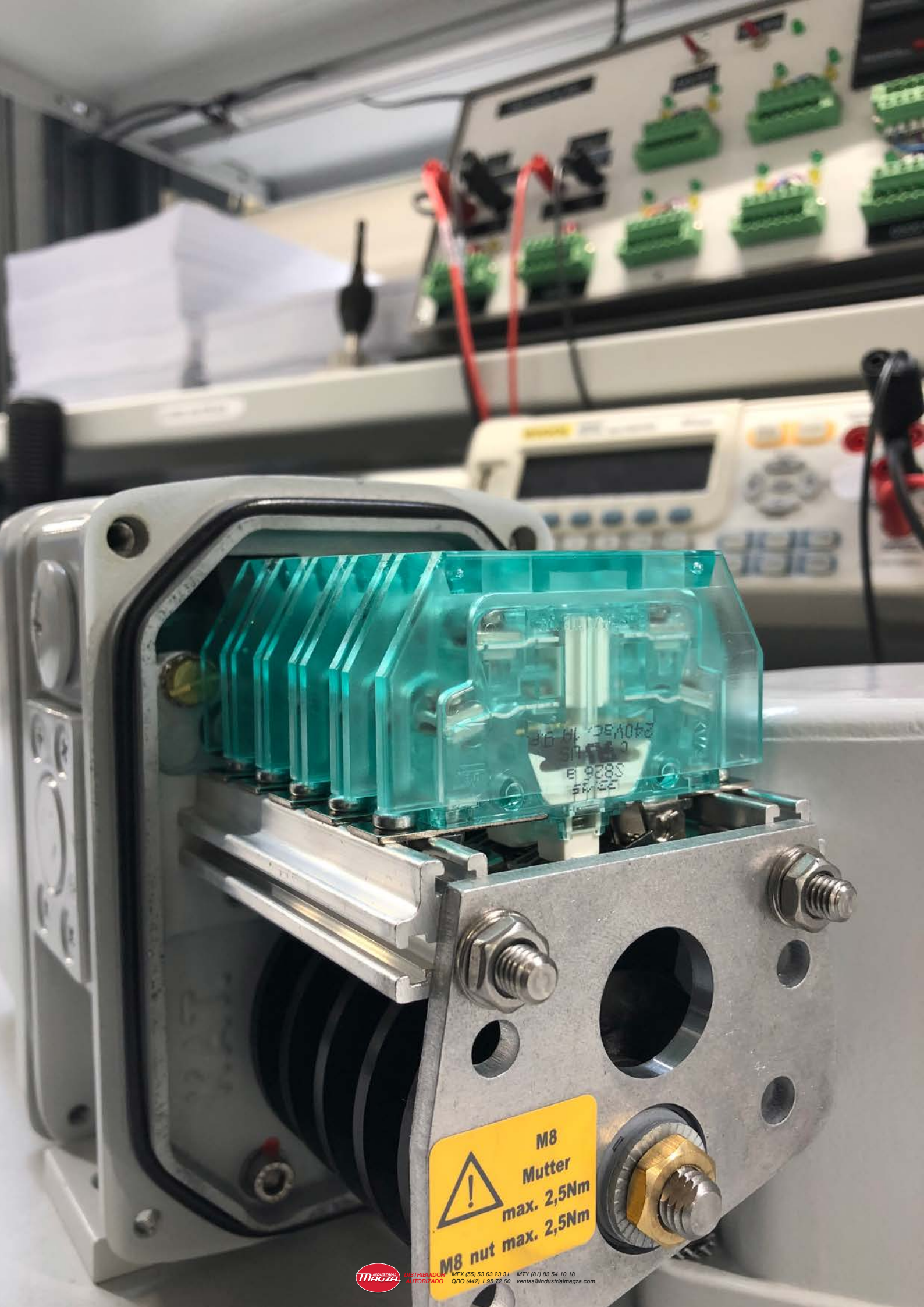
Series HGE, HEG, HHEV – Key of Types

Revision number: 3.1.4.19-01

Revision date: 19.11.2019

Stromag GmbH Hansastr.120, 59425 Unna Tel.+49(0)2303102-0 Made in Germany		
Getriebeendschalter Typ: 155_HGE_590_BFV70_A1R_G Auftr.Nr.: Ref-Nr.:		
Baujahr		

HGE, HEG or HHEV			
155	nominal revolutions	HGE	9.5, 18, 22, 29, 35, 70, 85, 100, 115, 155, 180, 230, 260, 305, 345, 460, 715
		HEG	0.15, 0.2, 0.28, 0.38, 0.39, 0.4, 0.5, 0.6, 0.65, 1, 1.05, 1.1, 1.4, 1.5, 1.9, 2, 2.5, 3.5, 6
		HHEV	0
HGE	Switch type	HGE	Worm Gear Limit Switch HGE
		HEG	Spur Gear Limit Switch HEG
		HHEV	Lever Limit Switch Series HHEV
5	Number of contacts fitted	HGE	1 to 8 contacts
		HEG	1 to 8 contacts
		HHEV	1 to 16 contacts
90	Type of switching contact	51	Contact (changeover) with screw connections, contact material: Gold
		52	Contact (changeover) with screw connections, contact material: Gold ⊕
		53	Contact (push action) with screw connections, contact material: Gold ⊕
		54	Contact (push action) with screw connections, contact material: Silver ⊕
		80	Contact (changeover) with screw connections, contact material: Silver ⊕
		81	Contact (push action) with screw connections, contact material: Silver ⊕
		90	Contact (changeover) with screw connections, contact material: Silver ⊕
		90G	Contact (changeover) with screw connections, contact material: Gold ⊕
		88	Contact (double action) with screw connections, contact material: Gold ⊕
BFV70	Type of built-in cam discs	FV50	Synthetic Material, precisely adjustable, diameter 50mm
		DFV50	Synthetic Material, double cams, precisely adjustable, diameter 50mm
		DV50	Brass, precisely adjustable, diameter 50mm
		FV70	Synthetic Material, precisely adjustable, diameter 70mm
A1R	Size contact space	BFV70	Synthetic Material, block adjustment, precisely adjustable, diameter 70mm
		A1	1 to 5 contacts
		A2	1 to 8 contacts
		A1R	1 to 5 contacts, right
		A2R	1 to 8 contacts, right
		A1L	1 to 5 contacts, left
		A2L	1 to 8 contacts, left
		B11	1 to 5 contacts, both sides
		B22	1 to 8 contacts, both sides
		B12	1 to 5 contacts, left / 1 to 8 contacts, right
B21	1 to 8 contacts, left / 1 to 5 contacts, right		
G	Additional components	G	with encoder / sensor
		P	with potentiometer



 M8
Mutter
max. 2,5Nm
M8 nut max. 2,5Nm

Premier Industrial Company Leading Brands

OTHER PRODUCT SOLUTIONS FROM **ALTRA MOTION**

Our comprehensive product offerings include various types of clutches and brakes, overrunning clutches, engineered bearing assemblies, gearing and gear motors along with linear motion products, belted drives, couplings, limit switches, precision motors, drives & controls, miniature motors and engine braking systems. With thousands of product solutions available, Altra provides true single source convenience while meeting specific customer requirements. Many major OEMs and end users prefer Altra products as their No. 1 choice for performance and reliability.

WWW.ALTRAMOTION.COM



Electric Clutches & Brakes

Inertia Dynamics
Matrix
Stromag
Warner Electric



Precision Motors & Automation

Kollmorgen



Heavy Duty Clutches & Brakes

Industrial Clutch
Stromag
Svendborg Brakes
Twiflex
Wichita Clutch



Miniature Motors

Portescap



Overrunning Clutches

Formsprag Clutch
Marland Clutch
Stieber



Linear Systems

Thomson



Engineered Couplings & Universal Joints

Ameridrives
Bibby Turboflex
Guardian Couplings
Huco
Lamiflex Couplings
Stromag
TB Wood's



Engine Braking Systems

Jacobs Vehicle Systems



Gear Drives & Gear Motors

Bauer Gear Motor
Boston Gear
Delroyd Worm Gear
Nuttall Gear



Specialty Components

Kilian
Stromag
TB Wood's



DISTRIBUIDOR AUTORIZADO MEX (55) 53 63 23 31 MTY (81) 83 54 10 18
QRO (442) 1 95 72 60 ventas@industrialmagza.com

Stromag Facilities

Europe

Germany

Hansastraße 120
59425 Unna - Germany
+49 (0) 23 03 102 0

*Clutches & Brakes, Couplings,
Geared Cam Limit Switches, Discs,
Wind Brakes*

Dessauer Str. 10
06844 Dessau-Roßlau - Germany
+49 (0) 340 2190 0

Electromagnetic Clutches & Brakes

France

Avenue de l'Europe
18150 La Guerche sur L'Aubois - France
+33 (0)2 48 80 72 72

Disc Brakes & Drum Brakes

Great Britain

Amphill Road
Bedford, MK42 9RD - UK
+44 (0)1234 324347

*Electromagnetic Clutches & Brakes,
Industrial Caliper Brakes*

North America

USA

31 Industrial Park Road
New Hartford, CT 06057 - USA
860-238-4783

Electromagnetic Clutches & Brakes

300 Indiana Highway 212
Michigan City, IN 46360 - USA
219-874-5248

Couplings

2800 Fisher Rd.
Wichita Falls, TX 76302 - USA
940-723-3400

*Geared Cam Limit Switches,
Industrial Caliper & Drum Brakes*

South America

Brasil

Avenida João Paulo Ablas, 2970
Jardim da Glória, Cotia - SP,
06711-250 - Brasil
+55 (11) 4615-6300

*Flexible Couplings, Bearing
Isolators, and Coupling Guards*

Asia Pacific

China

T40B -5, No. 1765 Chuan Qiao Road
Pudong 201206, Shanghai - China
Tel +86 21-60580600

*Clutches & Brakes, Electromagnetic
Clutches & Brakes, Couplings, Industrial
Caliper & Drum Brakes, Discs, Geared
Cam Limit Switches, Wind Brakes*

India

Gat No.: 448/14, Shinde Vasti, Nighoje
Tal Khed, Pune- 410 501
+91 2135 622100

*Clutches & Brakes, Electromagnetic
Clutches & Brakes, Couplings, Industrial
Caliper & Drum Brakes, Discs,
Cam Limit Switches, Wind Brakes*

The Brands of Altra Motion

Couplings

Ameridrives
www.ameridrives.com

Bibby Turboflex
www.bibbyturboflex.com

Guardian Couplings
www.guardiancouplings.com

Huco
www.huco.com

Lamiflex Couplings
www.lamiflexcouplings.com

Stromag
www.stromag.com

TB Wood's
www.tbwoods.com

Linear Systems

Thomson
www.thomsonlinear.com

Geared Cam Limit Switches

Stromag
www.stromag.com

Engineered Bearing Assemblies

Kilian
www.kilianbearings.com

Electric Clutches & Brakes

Matrix
www.matrix-international.com

Stromag
www.stromag.com

Warner Electric
www.warnerelectric.com

Deltran
www.thomsonlinear.com

Belted Drives

TB Wood's
www.tbwoods.com

Heavy Duty Clutches & Brakes

Twiflex
www.twiflex.com

Stromag
www.stromag.com

Svendborg Brakes
www.svendborg-brakes.com

Wichita Clutch
www.wichitaclutch.com

Gearing & Specialty Components

Bauer Gear Motor
www.bauergears.com

Boston Gear
www.bostongear.com

Delevan
www.delevan.com

Delroyd Worm Gear
www.delroyd.com

Nuttall Gear
www.nuttallgear.com

Engine Braking Systems

Jacobs Vehicle Systems
www.jacobsvehiclesystems.com

Precision Motors & Automation

Kollmorgen
www.kollmorgen.com

Miniature Motors

Portescap
www.portescap.com

Overrunning Clutches

Formsprag Clutch
www.formsprag.com

Marland Clutch
www.marland.com

Stieber
www.stieberclutch.com

Neither the accuracy nor completeness of the information contained in this publication is guaranteed by the company and may be subject to change in its sole discretion. The operating and performance characteristics of these products may vary depending on the application, installation, operating conditions and environmental factors. The company's terms and conditions of sale can be viewed at <http://www.altramotion.com/terms-and-conditions/sales-terms-and-conditions>. These terms and conditions apply to any person who may buy, acquire or use a product referred to herein, including any person who buys from a licensed distributor of these branded products.

©2019 by Stromag LLC. All rights reserved. All trademarks in this publication are the sole and exclusive property of Stromag LLC or one of its affiliated companies.