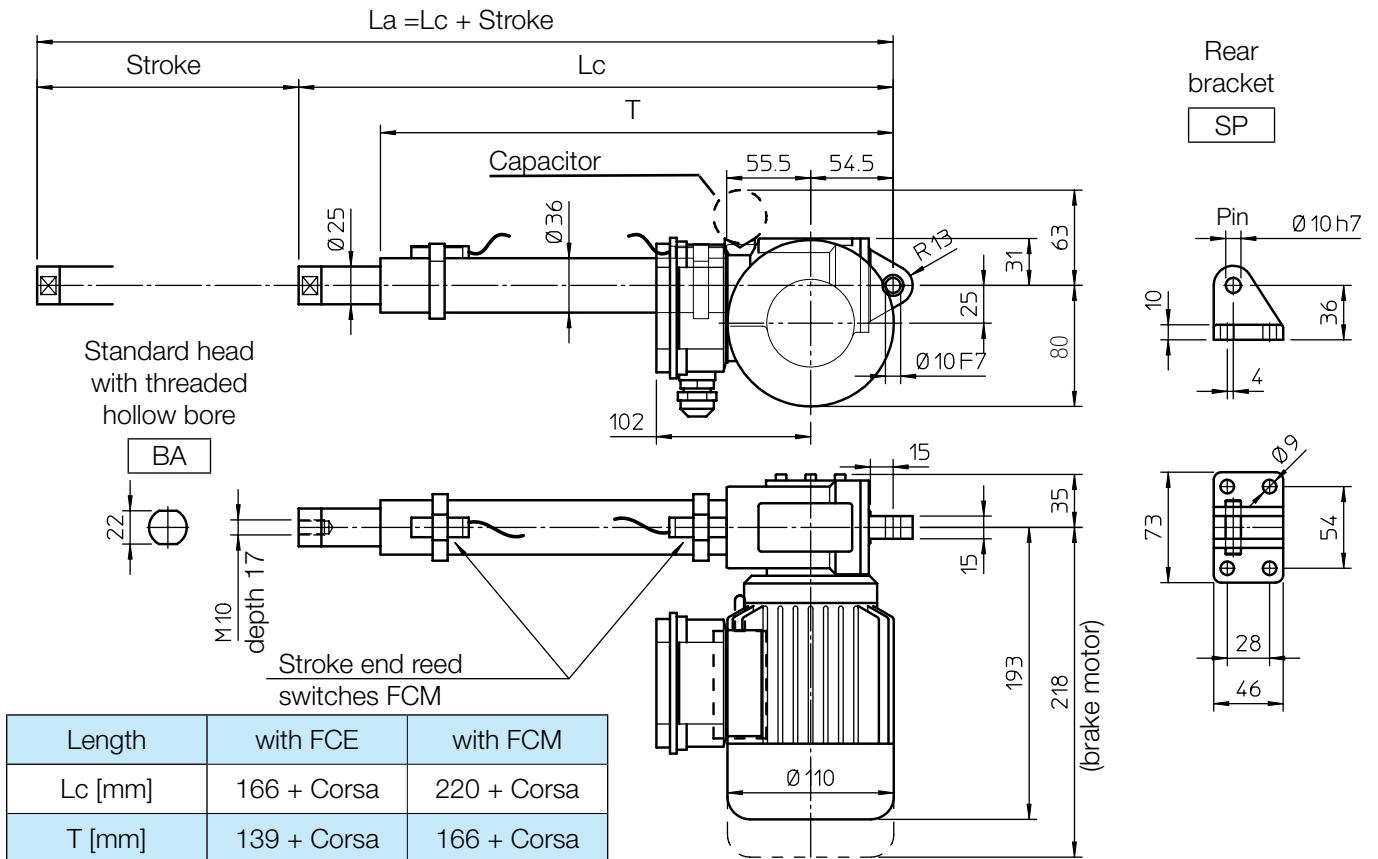
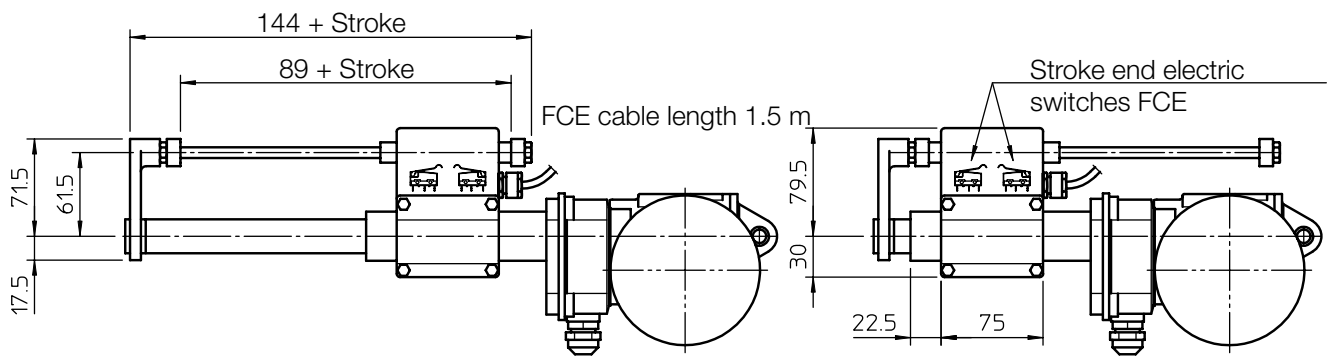


OVERALL DIMENSIONS



STROKE CODE	C100	C150	C200	C300	C400	C500
Working stroke length with FCE [mm]	100	150	200	300	400	500
Working stroke length with FCM [mm]	73	123	173	273	373	473



ROD END

ROE

CLEVIS END

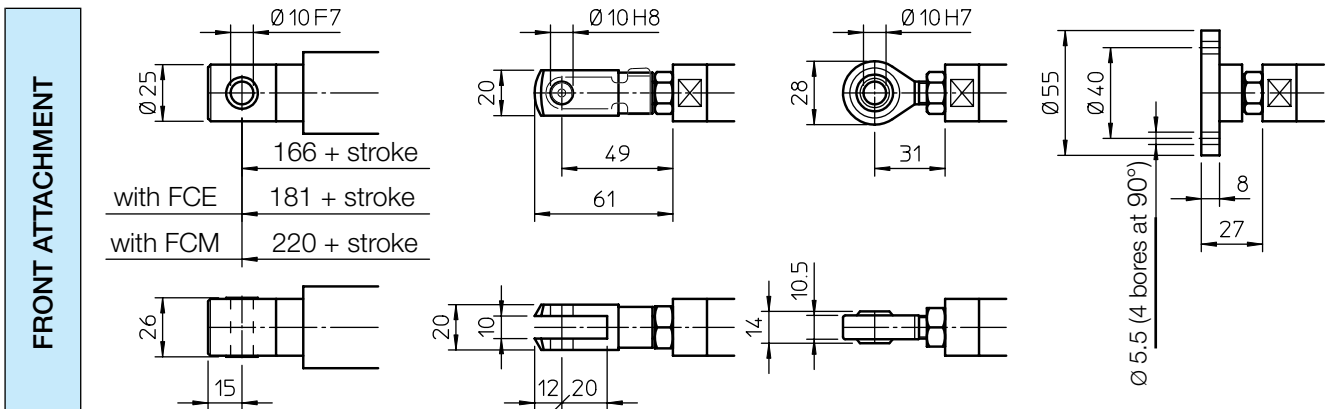
FO

BALL JOINT

TS

FLANGE END

FL





ACME SCREW LINEAR ACTUATOR ATL 10 AC motor

PERFORMANCES AND FEATURES

- Push load up to 5 000 N
- Pull load up to 4 000 N
- Linear speed up to 140 mm/s
- Standard stroke lengths: 100, 150, 200, 300, 400, 500 mm (for different / longer stroke lengths please contact us)
- Aluminium alloy housing and rear attachment, with bronze bush
- Anodized aluminium outer tube
- Chrome-plated steel push rod – tolerance f7
- Standard head BA or rod end ROE in stainless steel AISI 303 with bronze bush
- AC 3-phase or 1-phase motor (motor features details on page 70)
- Duty cycle with max load: 30% over 10 min at (-10...+40) °C
- Standard protection IP55 (IP54 with brake)
- Standard motor mounting position as per sketch (right-hand, code RH)
- Long-life lubrication, maintenance free

ACCESSORIES

- Different front attachments
- Stainless steel push rod (code SS)
- Rear bracket (code SP)
- Mechanical overload protection, safety clutch (code FS)
- Brake motor
- Two adjustable stroke end reed switches (code FCM)
- Extra switches for intermediate positions
- Electromechanical stroke end switch for linear speed up to 30 mm/s (code FCE) (technical data on page 72)

OPTIONS

- Motor mounting position on opposite side (left-hand, code LH)
- Fixing attachment turned at 90° (code RPT 90)

PERFORMANCES with AC 3-phase 50 Hz 230/400 V or 1-phase 50 Hz 230 V motor

1-start acme screw Tr 14x4				
RATIO	0.09 kW - 4 pole motor		0.12 kW - 2 pole motor	
	LOAD [N]	SPEED [mm/s]	LOAD [N]	SPEED [mm/s]
RH1	1750	23	1250	47
RV1	2620	15	1860	30
RN1	4490	7.5	3230	15
RL1	5000	3.5	5000	7.5
RXL1	5000	2	5000	3.5

2-starts acme screw Tr 14x8 (P4)				
RATIO	0.09 kW - 4 pole motor		0.12 kW - 2 pole motor	
	LOAD [N]	SPEED [mm/s]	LOAD [N]	SPEED [mm/s]
RH2	1070	47	790	93
RV2	1620	30	1180	60
RN2	2880	15	2080	30
RL2	4800	7.5	3520	15

3-starts acme screw Tr 14x12 (P4)				
RATIO	0.09 kW - 4 pole motor		0.12 kW - 2 pole motor	
	LOAD [N]	SPEED [mm/s]	LOAD [N]	SPEED [mm/s]
RH3	800	70	560	140
RV3	1210	45	860	90
RN3	2190	22	1540	45
RL3	3680	11	2680	22

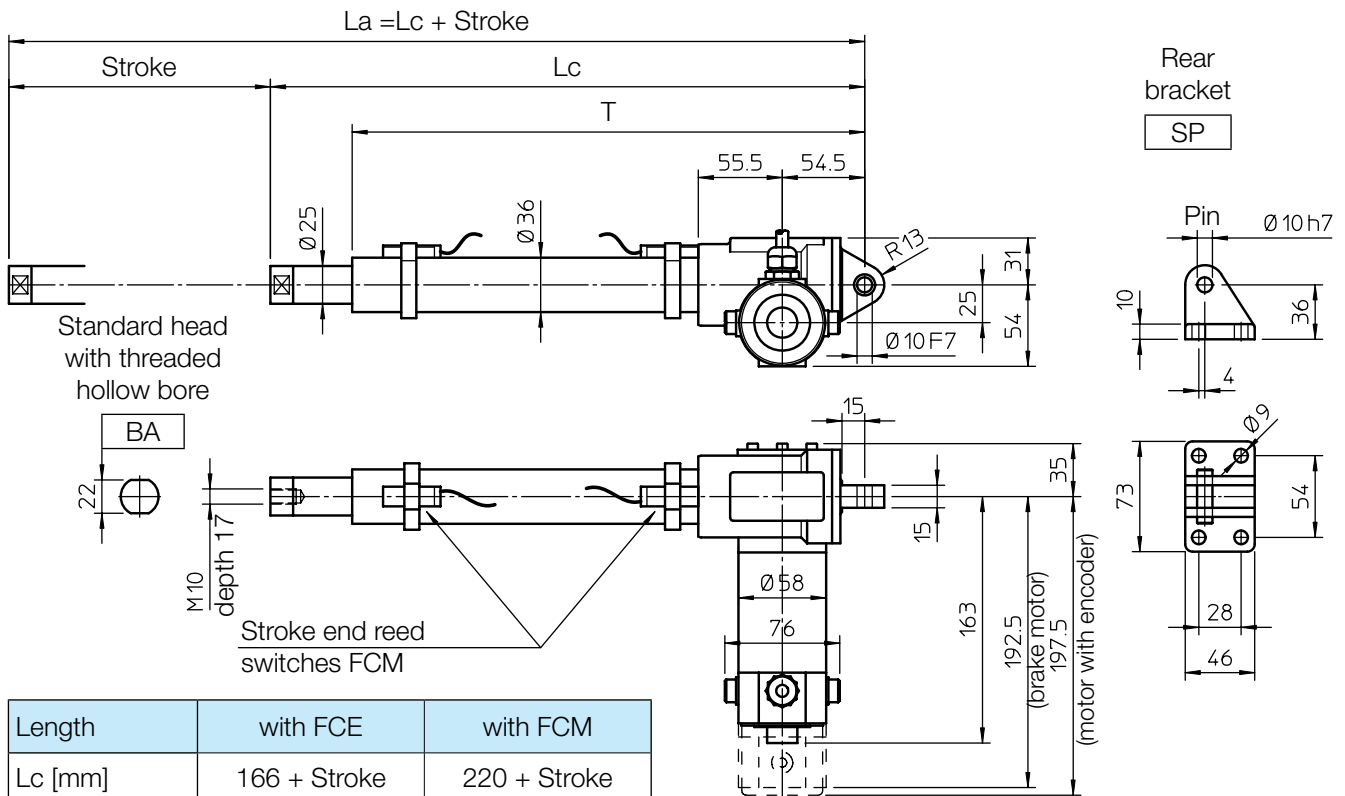
Self-locking conditions

Information about statically self-locking conditions with pull or push load on page 68.

ORDERING CODE EXAMPLE

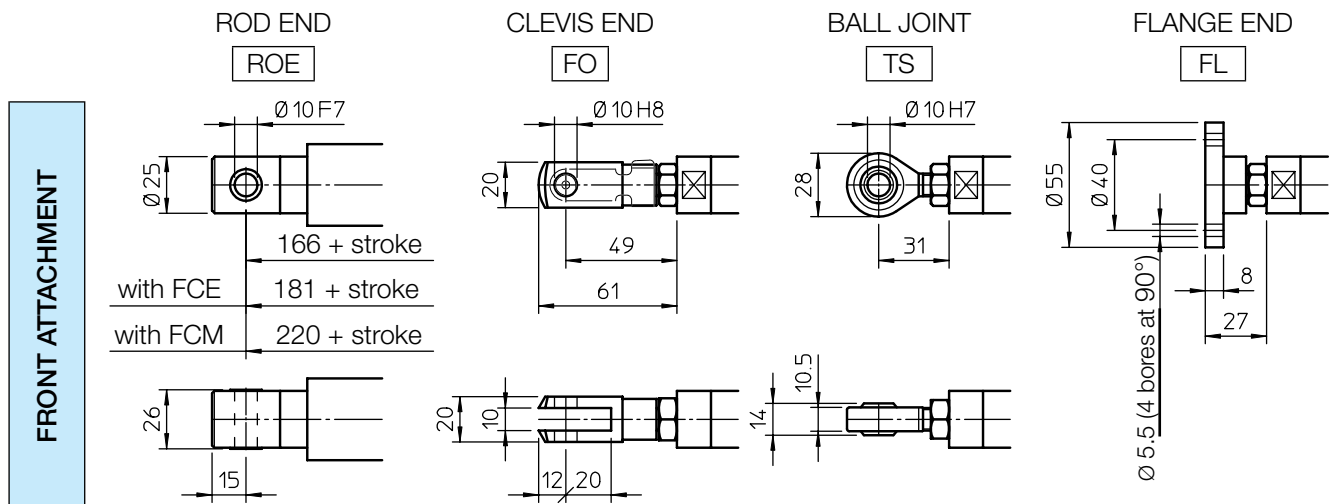
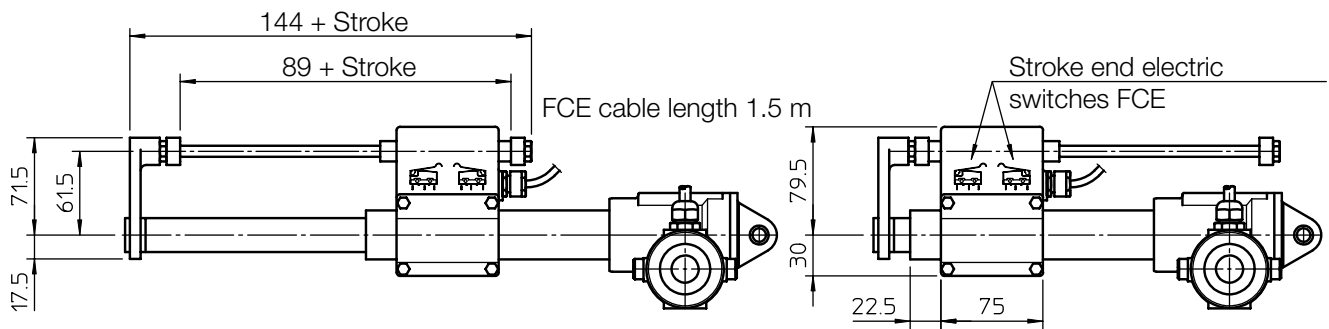
ATL 10	RL1	C200	CA 230/400 V	FCM					
Actuator	Selected ratio	Required stroke	Motor	Stroke end switches	Accessories			Options	

OVERALL DIMENSIONS



Length	with FCE	with FCM
Lc [mm]	$166 + \text{Stroke}$	$220 + \text{Stroke}$
T [mm]	$139 + \text{Stroke}$	$166 + \text{Stroke}$

STROKE CODE	C100	C150	C200	C300	C400	C500
Working stroke length with FCE [mm]	100	150	200	300	400	500
Working stroke length with FCM [mm]	73	123	173	273	373	473





ACME SCREW LINEAR ACTUATOR ATL 10 DC motor

PERFORMANCES AND FEATURES

- Pull-Push load up to 4 000 N
- Linear speed up to 150 mm/s
- Standard stroke lengths: 100, 150, 200, 300, 400, 500 mm (for different / longer stroke lengths please contact us)
- Aluminium alloy housing and rear attachment, with bronze bush
- Anodized aluminium outer tube
- Chrome-plated steel push rod – tolerance f7
- Standard head BA or rod end ROE in stainless steel AISI 303 with bronze bush
- DC 12 or 24 V motor (motor features details on page 69)
- Duty cycle with max load: 30% over 10 min at (-10 ... +40) °C
- Standard protection IP54
- Standard motor mounting position as per sketch (right-hand, code RH)
- Long-life lubrication, maintenance free

ACCESSORIES

- Different front attachments
- Stainless steel push rod (code SS)
- Rear bracket (code SP)
- Mechanical overload protection: safety clutch (code FS)
- Brakemotor
- Bi-directional incremental encoder, 100 ppr with zero set pulse, Push-Pull, 8÷24 Vdc (code EH38)
- Two adjustable stroke end reed switches (code FCM)
- Extra switches for intermediate positions
- Electromechanical stroke end switch for linear speed up to 30 mm/s (code FCE) (technical data on page 72)

OPTIONS

- Motor mounting position on opposite side (left-hand, code LH)
- Fixing attachment turned at 90° (code RPT 90)

PERFORMANCES with 24 V DC motor

(Performances with 12 V DC motor: same load, linear speed 10 % less, electrical consumption 2 times more)

1-start acme screw Tr 14x4			
RATIO	LOAD [N]	SPEED [mm/s]	CURRENT [A]
RH1	680	50	4
RV1	1020	32	4
RN1	1770	16	4
RL1	2960	8	4
RXL1	4000	4	4

2-starts acme screw Tr 14x8 (P4)			
RATIO	LOAD [N]	SPEED [mm/s]	CURRENT [A]
RH2	430	100	4
RV2	650	64	4
RN2	1160	32	4
RL2	1970	16	4

3-starts acme screw Tr 14x12 (P4)			
RATIO	LOAD [N]	SPEED [mm/s]	CURRENT [A]
RH3	310	150	4
RV3	470	96	4
RN3	840	48	4
RL3	1430	24	4

Self-locking conditions

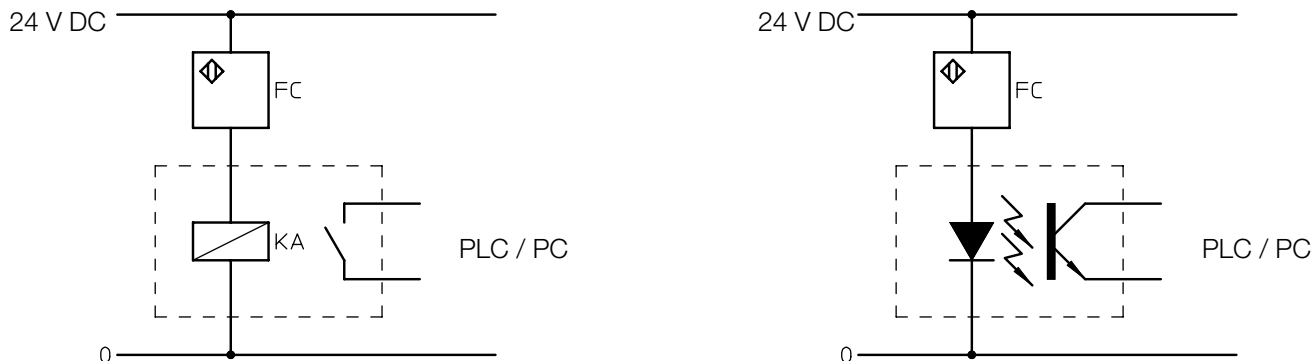
Information about statically self-locking conditions with pull or push load on page 68.

ORDERING CODE EXAMPLE

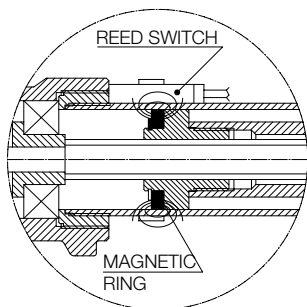
ATL 10	RL1	C200	CC 24 V	FCM					
Actuator	Selected ratio	Required stroke	Motor	Stroke end switches	Accessories			Options	

GENERAL NOTE

In case the linear actuator is used in an application where the stroke end switches must be connected to PLC or PC, we suggest to make the connection with a galvanic separation circuit.



13.1 Magnetic stroke end switches (reed) FCM (linear actuators ATL, BSA, UAL, UBA Series, LMI 02 and LMP 03)



The magnetic field of the ring fixed on the nut activates the reed contact of the switch locked on the protective tube with a clamp.

The position of the switches along the tube is easily adjustable.

The switches used to determine any intermediate position (between L_c and L_a) will switch over in two different positions, depending on the push rod motion direction (extending or retracting).

WARNING! The magnetic reed-switches can work only if connected to a wiring control circuit in order to activate the electric relay. Do not connect them in series between the power supply and the electric motor!

REED CONTACT RATED VALUE

	DC	AC
Rated voltage	(3 ... 130) V	(3 ... 130) V
Max. commutable power	20 W	20 VA
Max. commutable current	300 mA (resistive load)	
Max. inductive load	3 W	

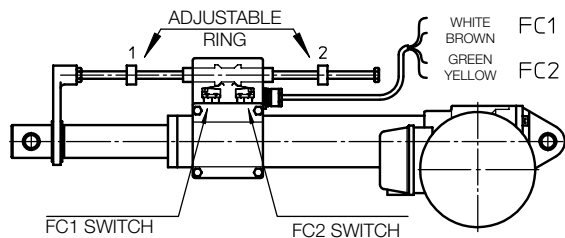
Standard: NC switch (normally closed contact) equipped with signalling LEDs and protective varistor against voltage peaks.

Standard cable length 2 m; wires 2 × 0.75 mm²

Different configurations available on request: NO (normally open); CS (exchanging contact).

For more information please contact our Technical Dpt.

13.2 Electric stroke end switches FCE (actuators ATL 10, ATL 12, BSA 10, BSA 12)



Two electric switches, installed inside a sealed plastic box, are activated by two adjustable rings through a shaft collar.

Standard switches are wired on the NC contact, cable length 1.5 m; wires 4 × 0.75 mm²

On request, they can be wired on the NO contact or on the switch-over contact CS (for available configurations please contact our Technical Dpt).

Min retracted length L_c is adjusted by ring 1. FC1 switch is connected with the WHITE and the BROWN cables.

Max extended length L_a is adjusted by ring 2. FC2 switch is connected with the YELLOW and the GREEN cables.

The position of the brass rings along the stainless steel supporting rod is easily adjustable.

CONTACT RATED VALUE

Voltage	Max current	
	Resistive load	Inductive load
250 Vac	5 A	3 A
30 Vdc	5 A	0.1 A
125 Vdc	1.4 A	-

WARNING! The electric reed switches can work only if connected to a wiring control circuit in order to activate the electric relay. Do not connect them in series between the power supply and the electric motor!

13.5 Encoder GI (linear actuators LMR 01, LMR02 and LMR 03)

Hall effect, bi-directional, incremental encoder

Output configuration: PUSH-PULL

Code GI 21: 2 output channels, 1 pulse per revolution

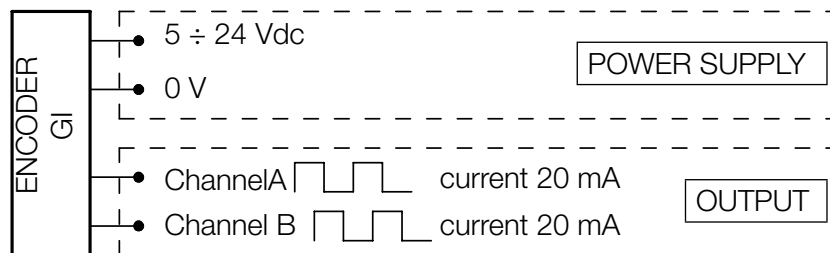
Code GI 24: 2 output channels, 4 pulses per revolution

Cable length: as motor cable

Protected against polarity inversion

Protected against any incorrect output connection

NOTE: For conductive cables colour, please refer to the wiring diagram in the “Installation Instructions” supplied with the product.



13.6 Encoder EH38 (linear actuators ATL 10, UAL 0, BSA 10, UBA 0)

Bi-directional, incremental, optical encoder

Output configuration: PUSH-PULL

Code EH38: 2 output channels, 100 pulses per revolution, with zero set pulse

Cable length: 1.3 m

Protected against short circuit

Protected against polarity inversion

Protected against any incorrect output connection

Input voltage: 8÷24 Vcc

No load power consumption: 100 mA

Max. commutable current: 50 mA per channel

NOTE: Safety clutch FS cannot be used with rotative encoder (the position reference would be lost due to its slipping).

