

**NEW**

# Brushless DC-Motors with integrated Drive Electronics

3,5 mNm

## Series 1935 ... BRC

	1935 S	006 BRC	009 BRC	012 BRC	
Nominal voltage	$U_N$	6	9	12	V DC
No-load speed	$n_o$	8 800	8 700	8 200	min <sup>-1</sup>
No-load current (with shaft $\varnothing$ 3 mm)	$I_o$	0,033	0,021	0,021	A
Starting torque	$M_A$	4	4	4	mNm
Torque constant	$k_M$	6,48	9,92	13,97	mNm/A
Slope of n-M curve	$\Delta n/\Delta M$	1 110	915	975	min <sup>-1</sup> /mNm
Rotor inertia	$J$	8,1	8,1	8,1	gcm <sup>2</sup>
Operating temperature range		- 25 ... + 85			°C
Shaft bearings		ball bearings, preloaded			
Shaft load max.:					
- shaft diameter		3			mm
- radial at 3 000 min <sup>-1</sup> (3 mm from mounting face)		10			N
- axial at 3 000 min <sup>-1</sup>		1			N
- axial at standstill		25			N
Shaft play:					
- radial	$\leq$	0,015			mm
- axial	$\parallel$	0			mm
Housing material		mounting face in aluminium, housing in plastic			
Weight		31			g
Direction of rotation		reversible			

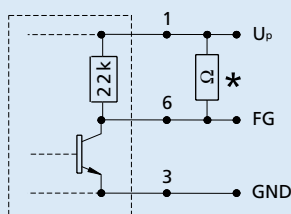
### Recommended values - mathematically independent of each other

Speed range	$n_e$	1 000 - 11 000			min <sup>-1</sup>
Torque up to <sup>1)</sup>	$M_{e,max.}$	3,5	3,5	3,5	mNm
Current up to (thermal limits) <sup>1)</sup>	$I_{e,max.}$	0,72	0,39	0,34	A

<sup>1)</sup> Specification applies to  $U_{nsoll} = 10$  V

### Electronic

Supply voltage	$U_p$	min. 4 ... max. 18		V DC
Current	$I_{max.}$	15		mA



#### Circuit diagram

\* An additional external pull-up resistor can be added to improve the rise time.

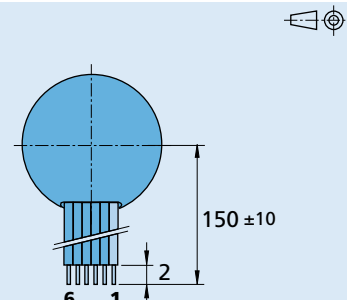
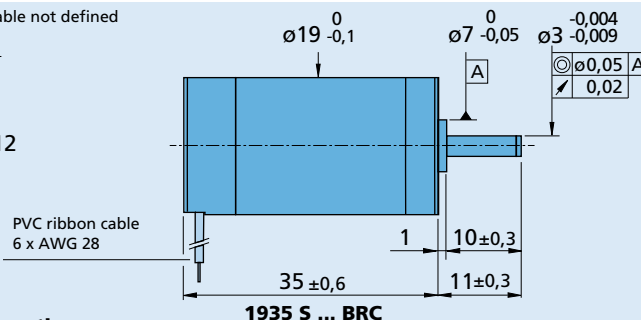
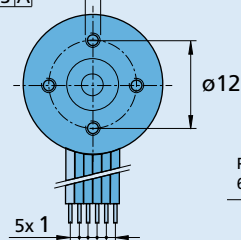
#### Caution:

$I_{out,max.}$  15 mA must not be exceeded!

Orientation with respect to motor cable not defined

4x

$\varnothing 0,3 \pm 0,1$  M2 3 deep



#### Cable connection

No.	Function	
1 (red)	$U_p$ : electronic supply	4 V DC - 18 V DC
2	$U_{mot}$ : coil supply	1,7 V DC - 18 V DC
3	GND : ground	
4	$U_{nsoll}$ : Speed command	0 - 10 V DC   > 10 V DC - max. $U_p$ not defined
5	DIR : direction of rotation	on ground or $U < 0,5$ V = CCW, $U > 3$ V = CW
6	FG : frequency output	(max. $U_p$ , $I_{max.}$ 15 mA) 3 lines per revolution

#### Caution:

Incorrect lead connection will damage the motor electronics!