

CROUZET - BLDC PLANETARY GEARED MOTOR WITH INTEGRATED SMI21 DRIVE

801495XX SMI21

Planetary 52mm gearmotor 92W 12?48Vdc 13?578rpm
25Nm max

- 12→48 V dc, 52→81 mmØ, 25→120 Nm, 9→756 rpm
- Speed, torque & position control
- Reduce control panel space & cabling
- Long life (>20,000 hours)
- IP65 as standard



PRODUCT DESCRIPTION

The SMI21 integrated drive is ideal for applications where speed, torque & positional control is required.

The motor also incorporates a high resolution 4096ppr incremental encoder ideal for precise positioning applications.

Motion programming, configuring & set-up performed through the dedicated user friendly DCmind-soft PC software. The program can be controlled via basic switches or by external PLC.

The long lifetime of the brushless motor (>20,000 hours with rated load) means it is ideal for continuous or long duty applications.

Having the drive integrated into the motor can also save control panel space, reduce cabling and save set-up time.

3 motor sizes available with the same diameter (57mm x 57mm), with increasing motor lengths for more power/torque.

Planetary & worm gearbox options available for reducing the speed & increasing the output torque.

The motors are rated to IP65 dust/water protection class as standard.

Options for adaptation to the standard motor include adding a holding brake, special output shaft, special connectors, upgraded IP protection & special firmware developed according to your specific application requirements.

* Product datasheets & 3D drawing for standard IP65 cable version attached as an example. Further information for braked version available upon request.
Full documentation & user manuals also available upon request.

TECHNICAL DATA

Diameter	52 mm
Integrated control	SMi21
IP class	IP65
Life span	20,000h
Max. torque	25
Number of pulses per revolution	4096
Positioning feedback	Yes
Power	92 W
Ratio	i=6,75→308:1

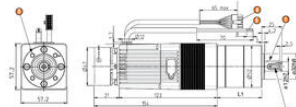
12 mm

13rpm→578rpm

12 V DC, 24 V DC, 48 V DC

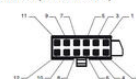
Planetary 1→3 stages

801495 - 5M521 - P52 with or without brake



- L1 1 stage: 55.3 ±0.5
 - L1 2 stages: 69.5 ±0.5
 - L1 3 stages: 83.7 ±0.5
- 1 Parallel key 4 x 4 x 16 DIN 6685 A
 - 2 M4 x 10
 - 3 4 x M5 at 90°, depth 10 over Ø 40
 - 4 Command cable 12 x AWG26 / 500 mm
 - 5 Power cable 2 x AWG16 / 500 mm

Connector (Molex 0430251200)

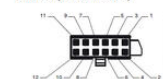


Logic cable			Power cable	
Pin	Description	Wires color	Description	Wires color
1	Input 1 - logic	Green	+12 V _{cc} = 40 V 0 V _{cc} =	Brown
2	Input 2 - logic	Yellow		Blue
3	Input 3 - logic	White		
4	Input 4 - logic	White-brown		
5	Input 5 - analog	Blue		
6	Input 6 - analog	Orange		
7	0 V _{cc}	Black		
8	0 V _{cc}	White-black		
9	Output 1 - PWM	Brown		
10	Output 2 - PWM	Purple		
11	Output 3 - logic	Red		
12	Output 4 - logic	Grey		

[illegible]

Other ratios possible	200					10 - 100
Comments						
<p>02 planetary gearbox: Metal parts on input shaft, IP65 apart from the output shaft.</p> <p>03 planetary gearbox: On the first stage, the planetary gears are made of composite materials which improve efficiency and service life. On the other stages, the metal gears turn on needle bearings. IP65 apart from the output shaft.</p> <p>04 planetary gearbox: All gears are metal and turn on needle bearings, resulting in excellent lubrication and a very long service life. IP65 apart from the output shaft.</p> <p>05 planetary gearbox: This gearbox contains a hardened steel worm and a hard bronze hatched gear wheel, thus ensuring a long service life. The wheel is coated with bronze, ensuring an excellent slip coefficient and good heat dissipation. Gears and splines are used in combination with a compression spring to create a tight seal at the gearbox output shaft and the motor input shaft. IP65 gearbox.</p> <p>06 planetary gearbox: Metal of aluminum to maximize heat exchanges with its supporting structure on the machine.</p> <p>However, due to the high power that can be transmitted by this gearbox and the low efficiency induced in large worm gearboxes under optimal input, make sure that the gearbox casing temperature does not exceed 75°C during operation.</p> <p>It is important to be cautious on the motor use or, in case of a gearbox with a high output, to use a gearbox with a high output shaft.</p>						

Connection



Logic cable			Power cable	
Pin	Description	Wires color	Description	Wires color
1	Input 1 - logic	Green	+12 V _{cc} → 48 V _{cc} 0 V _{cc} →	Brown
2	Input 2 - logic	Yellow		Blue
3	Input 3 - logic	White		
4	Input 4 - logic	White-brown		
5	Input 5 - analog	Blue		
6	Input 6 - analog	Orange		
7	0 V _{cc}	Black		
8	0 V _{cc}	White-black		
9	Output 1 - PWM	Brown		
10	Output 2 - PWM	Purple		
11	Output 3 - logic	Red		
12	Output 4 - logic	Grey		

[illegible]

02 planetary gearbox: Initial gear speed, this part from the output shaft.

03 planetary gearbox: On the first stage, the planetary gears are made of composite materials which improve efficiency and service life. On the other stages, the metal gears turn on needle bearings, this part from the output shaft.

04 planetary gearbox: All gears are metal and turn on needle bearings, resulting in excellent robustness and a very long service life. This part from the output shaft.

Wear parts: This gearbox contains a tempered steel worm and a fluid bronze helical gear wheel, thus ensuring a long service life. The wheel is coated with a special oil-resistant material. The worm and the gears and the bearings and the shafts are all treated with a compression spring to create a tight seal of the gearbox output shaft and the motor input shaft. This part from the gearbox.

The casing is made of aluminum to maximize heat exchanges with the supporting surface on the machine.

The casing is also the high-speed shaft support, which can be transformed into a high-speed shaft support (HSS) in instant in the case of the gearbox casting temperature does not exceed 70°C during operation.

The casing is also the oil seal, which can be transformed into a high-speed shaft support (HSS) in instant in the case of the gearbox casting temperature does not exceed 70°C during operation.