

Brushless gearmotor

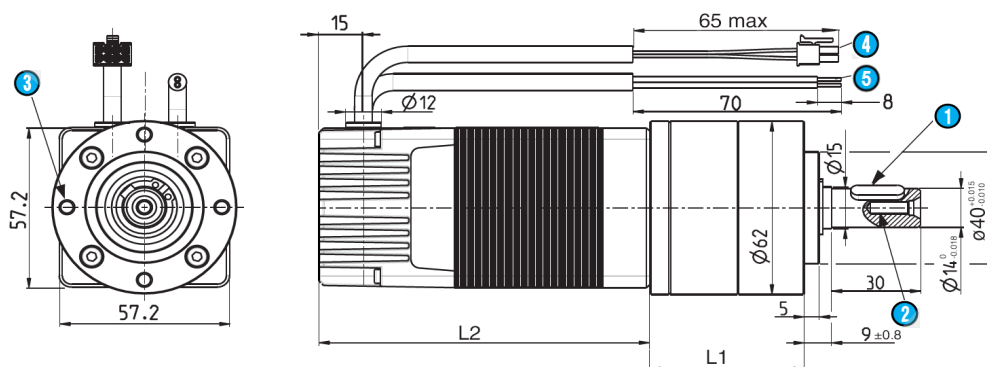
Data sheet

80 149 616

0/10V - ratio 6.75

Series

80 149 6 TNI20



- L1 = 52,1 + -0,7
L2 = 92 max.

General characteristics

Power supply		
Direct current voltage supply		✓
Nominal voltage range	Vdc	18 -> 32
Max. current	A	3

Gearmotor type		80 149 6 TNI20
Motor type		81 140 032
Gearbox type		81 049 6
Ratio		6,75
Number of stages		1
Max. permissible continuous torque	Nm	8
Max. backlash	°	0.65

Motor characteristics (1)		24 Vdc	
At no load			
Max. output speed	rpm	430	
Current at the max output speed (6)	A	0,29	
Standby current	A		
At nominal			
Speed	rpm	311	+-15%
Torque (2)	Nm	0,91	
Output power	W	30	+-15%
Current	A	4,4	
Efficiency	%	28	
At max. output power			
Speed	rpm	252	
Torque	Nm	1,40	
Output power	W	37	
Current	A	3	
Efficiency	%	51	
At peak torque			
Speed	rpm	252	
Torque	Nm	1,40	
Output power	W	37	
Current	A	3	
Others			
Weight	kg	1,75	
Noise level	dBA	45	

Connecting

Input - Output cable	With Molex connector ref: 43025-0800
Output cable, UL style 2464 80°C 300V - 8 wires AWG24	
Input: ON/OFF	1 - Green
Input: Direction	2 - Yellow
Input: Torque limit	3 - Blue
Input: Speed	4 - Orange
0V	5 - Black
Output: Pulse	6 - Brown
Output: Torque limit reached	7 - Purple
Output: Direction	8 - Red



The diagram shows a top-down view of an 8-pin Molex connector. The pins are arranged in two rows of four. The pins are numbered 1 through 8, starting from the top right and moving counter-clockwise: 1 (top right), 2 (top left), 3 (middle right), 4 (middle left), 5 (bottom right), 6 (bottom left), 7 (second from top right), and 8 (second from top left). A small rectangular tab is visible on the left side of the connector, between pins 4 and 5.

Drive		
Type	TNI20	
Built-in drive	✓	
Internal encoder	12 pulses per turn	
Control		
Speed	0/10 V	
Torque	0/10 V	
4 quadrants - low braking	✓	
4 quadrants with regenerative energy		
"Trapezoidal" type	✓	
Security		
Short-circuit of outputs	✓	
Input inverted	✓	
Low voltage	Vdc	< 14
Short high voltage	Vdc	> 36
Stop at max internal drive temperature (2)	°C	110
Drive temperature allowing to restart	°C	90

Generic parameters			
Output shaft with ball bearings		✓	
Max. Radial force	(12mm from front face)	N	240
Max. axial force(4)		N	70
Temperature range	CEI60068-2-1/2	°C	-30 -> +70
Storage temperature		°C	-40 -> +80
Dielectric	1min 2mA 50Hz CEI60335	Vac	1 000
Motor insulation	CEI60085	class	E
Salt spray	CEI60068-2-58	severity	48h
Degree of protection (output shaft not included)	CEI60529	IP	53
EMC			
Electrostatic Discharge	CEI61000-4-2	level	3
Radio frequency	CEI61000-4-3	level	3
Electrical fast transient / burst test	CEI61000-4-4	level	3
Surge test	CEI61000-4-5	level	1
Conducted disturbance	CEI61000-4-6	level	3
Radiated emission	EN55022	class	B
Approvals			
ROHS	2011/65/UE	✓	
EC	2014/30/UE	✓	

Notes
Values without tolerance are average production values.
Motor not protected in case of reversed power voltage
(1) Cold motor, 20 ° C ambient temperature, full speed
(2) Max torque for continuous operation at 20 ° C, decrease this value for higher ambient temperature
(4) Pinion or pulley fitting are done at the Crouzet factory, before final assembly.
(6) Value without gearbox. With gearbox, the value increases and varies depending on grease temperature.

Specifications subject to change without notice. Updated 21/11/2016

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26902 Valence CEDEX 9 France

www.crouzet-motors.com

80 149 616 - 0/10V - ratio 6.75

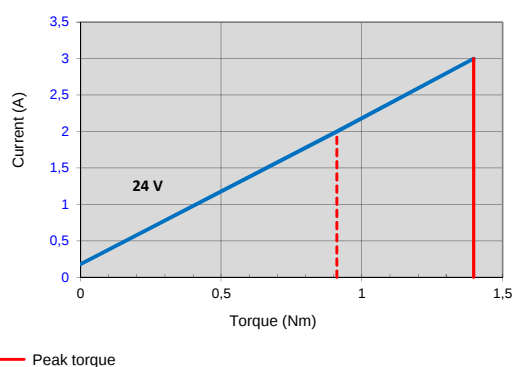
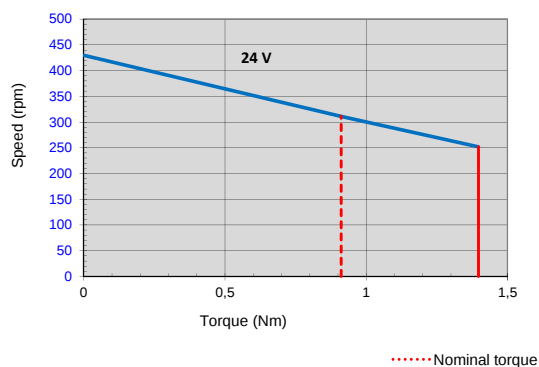
Series 80 149 6 TNI20

Drive electrical datas

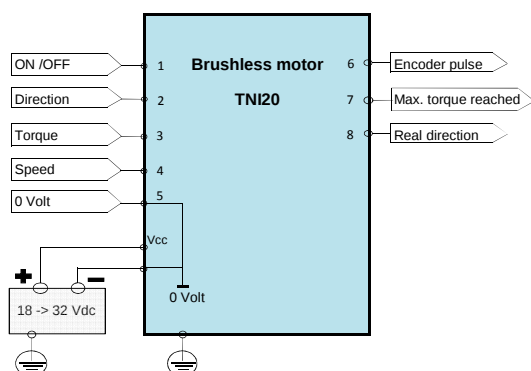
Absolute maximum ratings				
Parameters				
Max. voltage supply "Vcc"	Vdc		36	
Max. current "Icc max"	A		6	
Max. voltage on inputs "Vin max"	Vdc		36	
Max. voltage on outputs "Vout max"	Vdc		36	
Max. output current "Iout max"	mA		50	
Running datas				
Parameters				
Voltage supply "Vcc"	Vdc	Min	Typical	Max
		18	24	32
Current "Icc"	A	-	2	3
Standby power "Wo"	W	-	2	-
Speed setting	rpm	0 / 17,8	-	459
Torque setting	Nm	0,49	-	1,40

Input datas				
Parameters				
Impedance - Input 1, 2 (On/Off - Direction)	kΩ	Min	Typical	Max
		-	57	-
Impedance - Input 3 (torque)	kΩ	-	16,4	-
Impedance - Input 4 (speed)	kΩ	-	440	-
Low level - Input 1, 2	Vdc	0	-	2
High level - Input 1, 2	Vdc	4	-	50
Voltage level - Input 3, 4	Vdc	0	0/10	36
	Vdc	-	-	-
	Hz	-	-	-
Output datas				
Parameters				
Low level Outputs	Vdc	Min	Typical	Max
		0	-	0,2
with "pull down resistor" = 4,7KΩ and Vcc = 24 V				
High level Outputs	Vdc	Vcc - 0,5	-	Vcc
with "pull down resistor" = 4,7KΩ and Vcc = 24 V				
= voltage supply added from eventual rejective voltage				
Notes				
Outputs are destroyed if they are connected to zero ground or to a capacitive load				

Speed-torque and current-torque curves



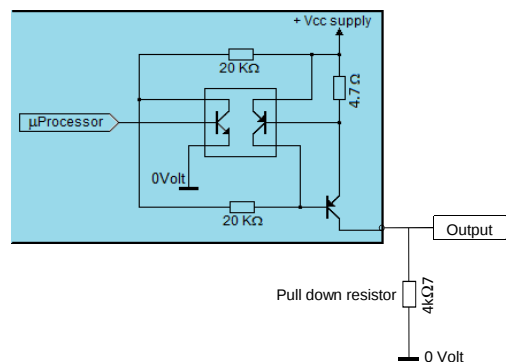
Wiring



Output equivalent circuit

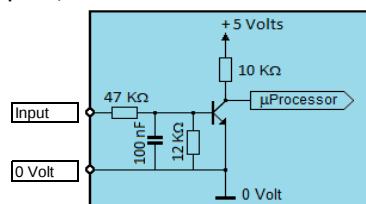
Outputs

Add a pull down resistor

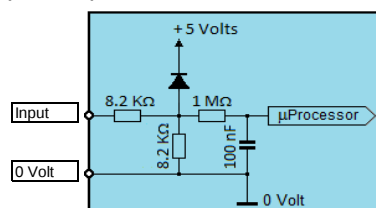


Input equivalent circuits

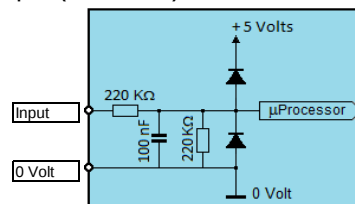
Inputs 1; 2: ON/OFF and Direction



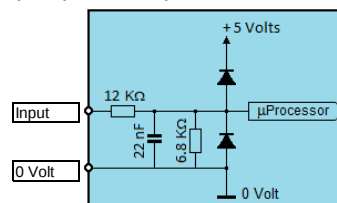
Input 3: Torque



Input 4: Speed (if 0/10 V drive)



Input 4: Speed (if PWM drive)



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