

- 1 Key way 6 x 6 x 28 DIN6885A
- 2 M6 x 16
- 3 4 x M6 on 65mm diam - 12 depth

- 4 Input - Output cable - 500 mm ± 20
- 5 Power supply cable - 500 mm ± 20

L1 = 70,5 ±0,6
L2 = 112 max.

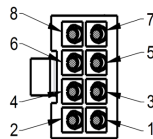
General characteristics

Power supply		
Direct current voltage supply		✓
Nominal voltage range (5)	Vdc	12 -> 48
Max. current	A	15

Gearmotor type		80 289 7 TNI21		
Motor type		80 280 013		
Gearbox type		81 041 0		
Ratio		5,18		
Number of stages		1		
Max. permissible continuous torque	Nm	20		
Max. backlash	°	0,5		

Motor characteristics (1)		12 Vdc	24 Vdc	32 Vdc	
At no load					
Max. output speed	rpm	386	763	763	
Current at the max output speed (6)	A	0,5	0,7	0,6	
Standby current	A	0,08	0,09	0,09	+10%
At nominal					
Speed	rpm	270	627	753	+15%
Torque (2)	Nm	2,3	1,8	1,7	
Output power	W	65	119	130	
Current	A	8,5	6,9	5,5	
Efficiency	%	63	72	74	
At max. output power					
Speed	rpm	154	367	463	+15%
Torque	Nm	4,7	4,7	4,7	
Output power	W	75	179	226	
Current	A	15,3	14,6	12,5	
Efficiency	%	41	51	57	
At peak torque					
Speed	rpm	154	367	463	+15%
Torque	Nm	4,7	4,7	4,7	
Output power	W	75	179	226	
Current	A	15,3	14,6	12,5	
Others					
Weight	kg	3,24			
Noise level	dB(A)	55			

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
OV	5 - Black
Output: Pulse	6 - Brown
Output: Torque limit reached	7 - Purple
Output: Direction	8 - Red
Power supply cable	
Cable UL style 2517 105°C 300V	- 2 wires AWG16 - 500 mm
+ 12Vcc -> + 48 Vdc (5)	Brown
OV	Blue



Drive	
Type	TNI21
Built-in drive	✓
Internal encoder	24 pulses per turn
Control	
Speed	PWM
Torque	PWM
4 quadrants - low braking	✓
4 quadrants with regenerative energy	
"Trapezoidal" type	✓
Security	
Short-circuit of outputs	✓
Input inverted	✓
Low voltage	Vdc < 9
Short high voltage	Vdc > 56
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		400
Max. axial force(4)	N		80
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	65
EMC			
Electrostatic Discharge	CEI61000-4-2	level	3
Electrical fast transient / burst test	CEI61000-4-4	level	3
Surge test	CEI61000-4-5	level	1
Radiated emission	EN55022	class	B
Approvals			
ROHS	2011/65/UE	✓	
EC	2014/30/UE	✓	

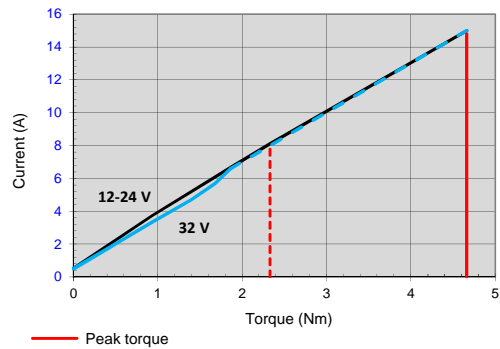
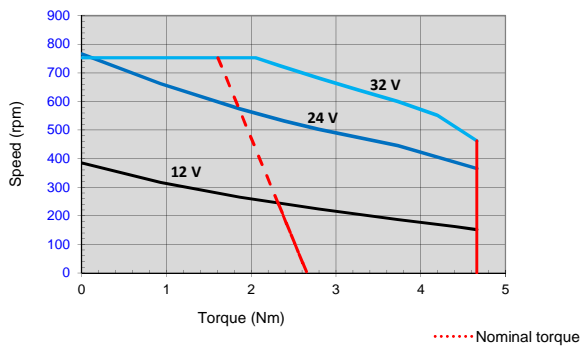
Notes	
Values without tolerance are average production values.	
Added informations are in "TNI21 manual and security". Available on www.crouzet-motors.com .	
Motor not protected in case of reversed power voltage	
(1) Cold motor, 20 ° C ambient temperature, full speed	
(2) Max torque for continuous operation at 20 ° C, decrease this value for higher ambient temperature	
(4) Pinion or pulley fitting are done at the Crouzet factory, before final assembly.	
(5) Before September 2015: Nominal was 12 -> +32Vdc, Short high voltage was > 36Vdc, Absolute max. was 39Vdc	
(6) Value without gearbox. With gearbox, the value increases and varies depending on grease temperature.	

Drive electrical datas

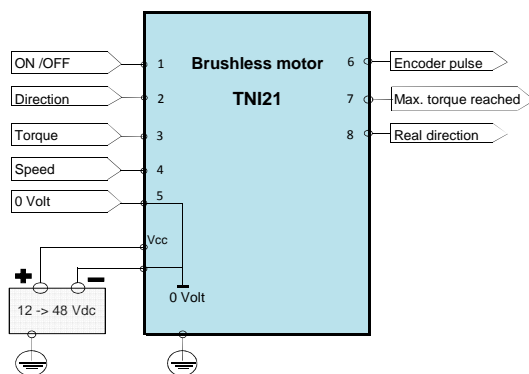
Absolute maximum ratings			
Parameters			
Max. voltage supply "Vcc" (5)	Vdc		85
Max. current "Icc max"	A		20
Max. voltage on inputs "Vin max" (5)	Vdc		50
Max. voltage on outputs "Vout max" (5)	Vdc		85
Max. output current "Iout max"	mA		50
Running datas			
Parameters			
Voltage supply "Vcc" (5)	Vdc	Min	Typical
Current "Icc"	A		8
Standby power "Wo"	W		1
Speed setting	rpm	0 / 23,2	- 772
Torque setting	Nm	0,2	- 4,7
Holding torque setting	Nm	0,2	- 1,4

Input datas			
Parameters			
Impedance - Input 1, 2	kΩ	Min	Typical
Impedance - Input 3, 4	kΩ		57
Low level - Input 1, 2	Vdc		69
High level - Input 1, 2	Vdc	0	- 2
Low level - Input 3, 4	Vdc	4	- 60
High level - Input 3, 4	Vdc	0	- 2
PWM frequency	Hz	7,5	- 50
		100	- 2000
Output datas			
Parameters			
Low level Outputs	Vdc	Min	Typical
with "pull down resistor" = 4,7KΩ and Vcc = 24 V		0	- 0,2
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

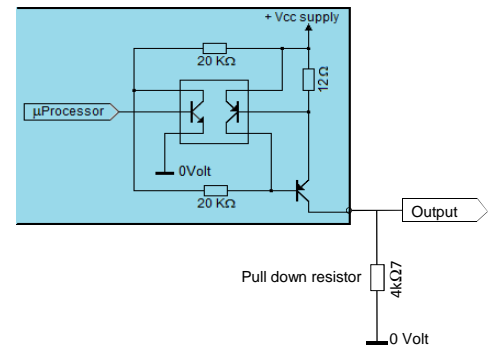


Wiring



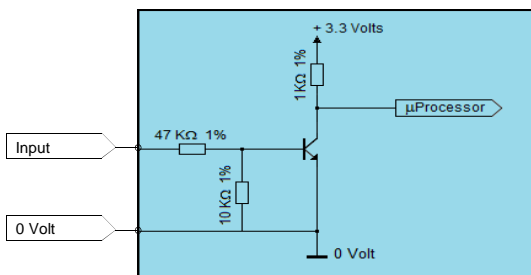
Output equivalent circuit

Outputs
PNP open collector output with internal current limitation (50mA)
Add a pull down resistor

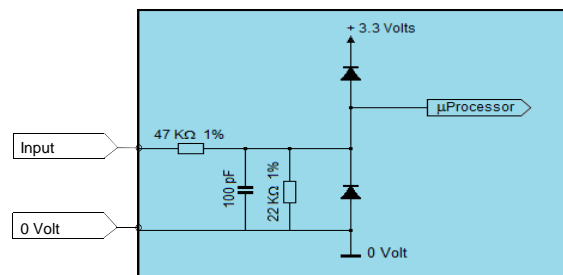


Input equivalent circuits

Inputs: ON/OFF and Direction



Inputs: Torque and Speed



Specifications subject to change without notice. Updated 25/07/2016