

- 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 = 92,2 +-0,6  
L2 = 112 max.

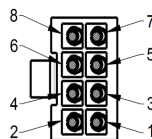
## General characteristics

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		80 280 007		
Gearbox type		81 041 0		
Ratio		19,2		
Number of stages		2		
Max. permissible continuous torque	Nm	60		
Max. backlash	°	0,55		

Motor characteristics (1)		12 Vdc	24 Vdc	32 Vdc	
<b>At no load</b>					
Max. output speed	rpm	104	206	206	
Current at the max output speed (6)	A	0,5	0,7	0,6	
Standby current	A	0,08	0,09	0,09	+10%
<b>At nominal</b>					
Speed	rpm	73	169	203	+15%
Torque (2)	Nm	7,5	6,0	5,5	
Output power	W	57	106	116	
Current	A	8,5	6,9	5,5	
Efficiency	%	56	64	66	
<b>At max. output power</b>					
Speed	rpm	42	99	125	+15%
Torque	Nm	15,4	15,4	15,4	
Output power	W	67	159	201	
Current	A	15,3	14,6	12,5	
Efficiency	%	37	45	50	
<b>At peak torque</b>					
Speed	rpm	42	99	125	+15%
Torque	Nm	15,4	15,4	15,4	
Output power	W	67	159	201	
Current	A	15,3	14,6	12,5	
<b>Others</b>					
Weight	kg	4,14			
Noise level	dB(A)	55			

Connecting	
<b>Input - Output cable</b>	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
<b>Power supply cable</b>	
Cable UL style 2517 105°C 300V	- 2 wires AWG16 - 500 mm
+ 12Vcc -> + 48 Vdc (5)	Brown
0V	Blue



Drive	
<b>Type</b>	<b>TNI21</b>
Built-in drive	✓
Internal encoder	24 pulses per turn
<b>Control</b>	
Speed	0/10 V
Torque	0/10 V
4 quadrants - low braking	✓
4 quadrants with regenerative energy	
"Trapezoidal" type	✓
<b>Security</b>	
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 600
Max. axial force(4)	N 120
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
<b>EMC</b>	
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
<b>Approvals</b>	
ROHS	2011/65/UE ✓
EC	2014/30/UE ✓

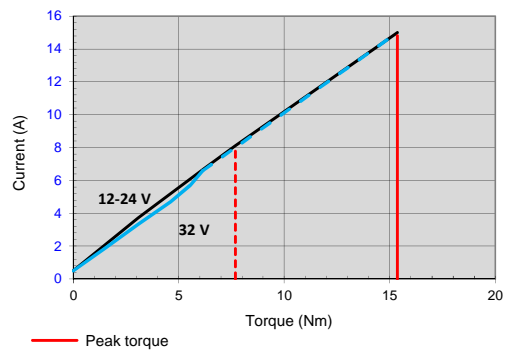
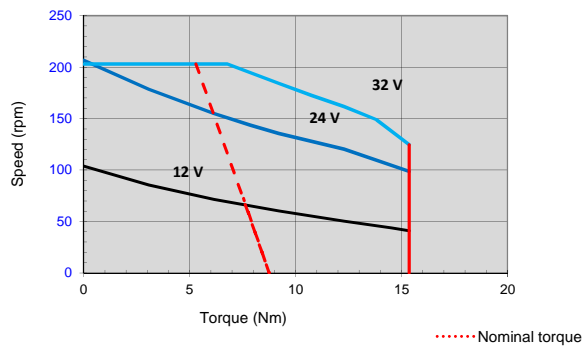
Notes	
Values without tolerance are average production values.	
Added informations are in "TNI21 manual and security". Available on <a href="http://www.crouzet-motors.com">www.crouzet-motors.com</a> .	
Motor not protected in case of reversed power voltage	
(1) Cold motor, 20 ° C ambient temperature, 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

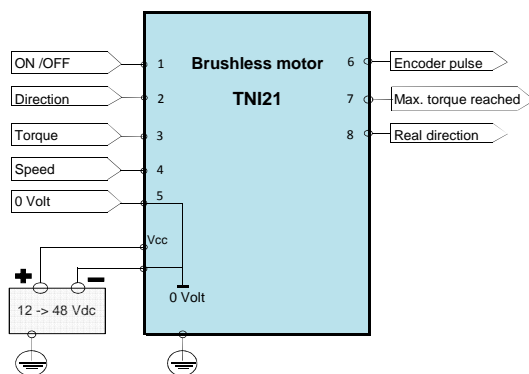
Absolute maximum ratings				
Parameters				
Max. voltage supply "Vcc" (5)	Vdc			85
Max. current "Icc max"	A			20
Max. voltage on inputs "Vin max" (5)	Vdc			50
Max. voltage on outputs "Vout max" (5)	Vdc			85
Max. output current "Iout max"	mA			50
Running datas				
Parameters				
Voltage supply "Vcc" (5)	Vdc	Min	Typical	Max
Current "Icc"	A	-	8	15
Standby power "Wo"	W	-	1	-
Speed setting	rpm	0/ 6,3	-	208
Torque setting	Nm	0,6	-	15,4
Holding torque setting	Nm	0,6	-	4,8

Input datas				
Parameters				
Impedance - Input 1, 2	kΩ	Min	Typical	Max
Impedance - Input 3, 4	kΩ	-	57	-
Low level - Input 1, 2	Vdc	0	-	2
High level - Input 1, 2	Vdc	4	-	60
Voltage level - Input 3, 4	Vdc	0	0/10	50
	Hz			
Output datas				
Parameters				
Low level Outputs	Vdc	Min	Typical	Max
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



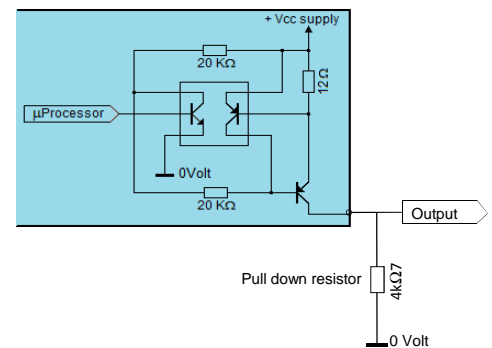
## Wiring



## Output equivalent circuit

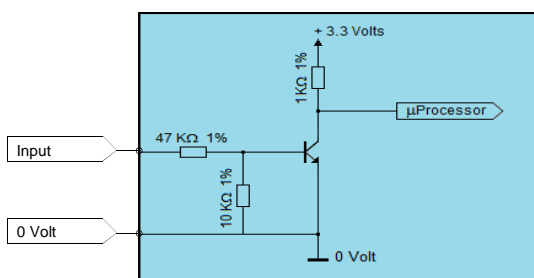
### Outputs

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

