

General characteristics

| Power supply | | |
|-------------------------------|-----|----------|
| Direct current voltage supply | | ✓ |
| Nominal voltage range | Vdc | 12 -> 32 |
| Max. current | A | 10 |

| Motor characteristics (1) | | 12 Vdc | 24 Vdc | 32 Vdc | |
|---------------------------------|------------------|--------|--------|--------|-------|
| At no load | | | | | |
| Max. output speed | rpm | 2 900 | 4 000 | 4 000 | |
| Current at the max output speed | A | 0,34 | 0,29 | 0,27 | |
| Standby current | A | 0,08 | 0,09 | 0,09 | +-10% |
| At nominal | | | | | |
| Speed | rpm | 1 900 | 4 000 | 4 000 | +-10% |
| Torque (2) | mNm | 193 | 184 | 178 | |
| Output power | W | 38 | 77 | 75 | +-10% |
| Current | A | 5,2 | 4,4 | 3,2 | |
| Efficiency | % | 62 | 74 | 73 | |
| At max. output power | | | | | |
| Speed | rpm | 1 600 | 3 050 | 4 000 | |
| Torque | mNm | 250 | 358 | 358 | |
| Output power | W | 42 | 114 | 150 | +-10% |
| Current | A | 6,5 | 10,0 | 10,0 | |
| Efficiency | % | 53 | 48 | 47 | |
| At peak torque | | | | | |
| Speed | rpm | 930 | 3 050 | 4 000 | |
| Torque | mNm | 358 | 358 | 358 | |
| Output power | W | 35 | 114 | 150 | |
| Current | A | 10 | 10 | 10 | +-10% |
| Others | | | | | |
| Life (3) | h | | 20 000 | | |
| Rotor inertia | gcm ² | | 75 | | |
| Thermal Resistance | °/W | | 3 | | |
| Thermal time constant | mn | | 20 | | |
| Rotor pole number | | | 4 | | |
| Cogging torque | mNm | | 11 | | |
| Weight | kg | | 0,95 | | |
| Noise level | dBA | | 40 | | |

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 | |
| Power supply cable | | |
| Cable UL style 2517 105°C 300V - 2 wires AWG16 - 500 mm | | |
| + 12Vdc -> + 32 Vdc | Brown | |
| 0V | Blue | |

| Drive | | TNI21 |
|--|----------------|--------------------|
| Type | 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 | | |
| Type "Trapezoidal" | | ✓ |
| Security | | |
| Short-circuit of outputs | | ✓ |
| Input inverted | | ✓ |
| Low voltage | Vdc | < 10 |
| 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 | | 40 |
| Max. axial force(4) | N | | 20 |
| Temperature range | CEI60068-2-1/2 | °C | -30 -> +70 |
| Storage temperature | | °C | -40 -> +80 |
| Dielectric | 1min 2mA 50Hz CEI60335 | Vdc | |
| Motor insulation | CEI60085 | class | E |
| Salt spray | CEI60068-2-58 | severity | 48h |
| Degree of protection (output shaft not included) | CEI60529 | IP | 65M |
| 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 | 2002/95/CE | | ✓ |
| EC | | | ✓ |

| Brake | | Static |
|------------------------|-----------------|---------------|
| Type | Power OFF brake | ✓ |
| Voltage supply | | Vdc 24 +- 10% |
| Nominal holding torque | | Nm 0,5 |
| Input power | | W 6,6 |

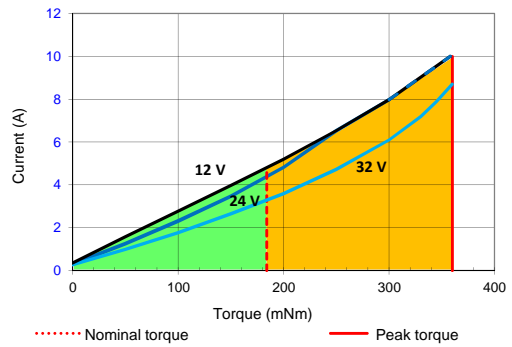
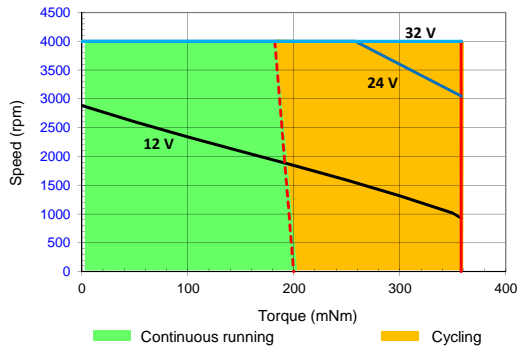
| Notes | |
|---|--|
| Values without tolerances are average production values. | |
| Added informations are in "TNI21 manual and security" on www.crouzet.com | |
| Motor not protected in case of reversed power voltage | |
| (1) Cold motor, 20 °C ambient temperature, full speed | |
| (2) Max torque for continuous operation at 20 °C, decrease this value for higher ambient temperature | |
| (3) Continuously rated torque, zero radial and axial loads | |
| (4) Pinion or pulley fitting are done at the Crouzet factory, before final assembly. | |

Drive electrical datas

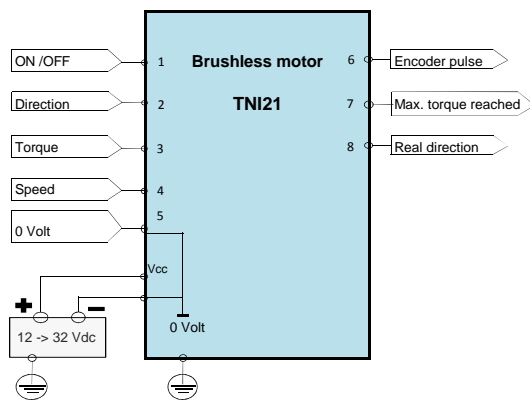
| Max. product characteristics | | | | |
|------------------------------------|-----|-----|----------|-------|
| Parameters | | | | |
| Max. voltage supply "Vcc" | Vdc | | 39 | |
| Max. current "Icc max" | A | | 12 | |
| Max. voltage on inputs "Vin max" | Vdc | | 39 | |
| Max. voltage on outputs "Vout max" | Vdc | | 39 | |
| Max. output current "Iout max" | mA | | 50 | |
| Running datas | | | | |
| Parameters | | | | |
| Voltage supply "Vcc" | Vdc | Min | Typical | Max |
| | | 10 | 12/24/32 | 36 |
| Current "Icc" | A | - | 6 | 12 |
| Standby power "Wo" | W | - | 2 | - |
| Speed setting | rpm | 120 | - | 4 000 |
| Torque setting | mNm | 35 | - | 360 |
| Holding torque setting | mNm | 35 | - | 150 |

| Input datas | | | | |
|--|-----|-----------|---------|------|
| Parameters | | | | |
| Impedance - Input 1, 2 | kΩ | - | 57 | - |
| Impedance - Input 3, 4 | kΩ | - | 69 | - |
| Low level - Input 1, 2 | Vdc | 0 | - | 2 |
| High level - Input 1, 2 | Vdc | 4 | - | 39 |
| Low level - Input 3, 4 | Vdc | 0 | - | 2 |
| High level - Input 3, 4 | Vdc | 7,5 | - | 39 |
| PWM frequency | Hz | 100 | - | 2000 |
| 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 | | | | |

Speed-torque and current-torque curves



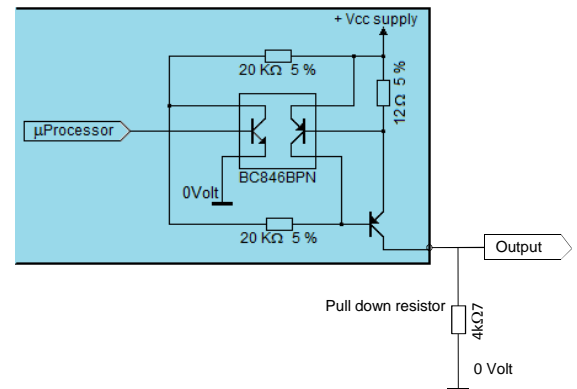
Wiring



Output equivalent circuit

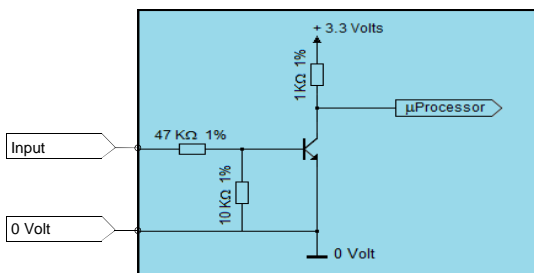
Outputs

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



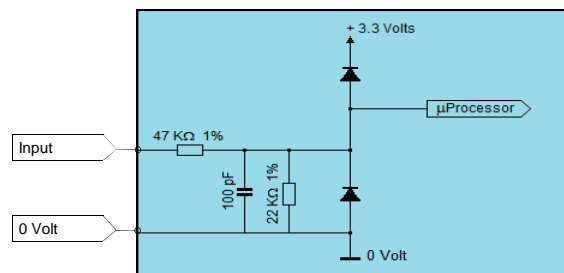
Inputs: ON/OFF and Direction

Inputs: ON/OFF and Direction



Inputs: Torque and Speed

Inputs: Torque and Speed





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- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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