Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

Contact us

CROUZET MOTORS

BDE30 : 18 to 36 V DC - 6 A nominal BDE30 for motor 80140504 Part number 79238956

- 4 quadrants, for closed-loop speed control, torque, position-holding and braking control
- Specific part numbers by motor, winding and options
- Push-in connections for series connection
- For use alone or with a PLC, depending on the part numbers
- Voltage, current and temperature protection devices

Part numbers

	Type	Type
79238956	BDE30 for motor 80140504	PWM speed control

Specifications

General characteristics

Motor	80140504
Supply voltage (V)	18 →36 (= V DC)
Nominal current (A)	2,5
Max. current (A)	2.5 (internal limiting)
Absorbed current (A)	0,1 (consumption without motor)
Temperature rise (^{o}C)	15
Ambient operating temperature (°C)	-20 →70
Storage temperature (^{0}C)	-40 →90
Weight (g)	200

Safety standards

On/Off input and Direction of rotation input

Input impedance (kΩ)	59
Level 0 input voltage (V)	< 2 or non-connected
Level 1 input voltage (V)	4 →V DC

Speed input, PWM version

Input impedance (kΩ)	59
Level 0 input voltage (V)	< 2.5 or non-connected
Level 1 input voltage (V)	11.5 →V DC
Operating frequency (Hz)	100 →1000

Speed input, 0-10 V version

Input impedance (kΩ)	440
Control voltage	0 →10

Torque limit/ holding/ braking input (0-10V and PWM)

Input impedance (kΩ)	16,4
Level 0 input voltage (V)	0
Level 1 input voltage (V)	11.5 →V DC
Frequency (Hz)	100 →1000
Control voltage	0 →10

Hall effect inputs

Output

Type PNP open collector	▪
Max. current (A)	0,02

Encoder output

Rest state (V)	+ V DC
Number of 250 µs pulses per motor revolution	12

Torque limit reached output

Rest state (V)	0
Active torque limitation (V)	+ supply voltage

Accessories

Description	Code
Pre-assembled connector + 8 AWG24 leads - length 210 mm for connection to the "control connector"	79294810

Principles

Unless otherwise specified, the characteristics given are applicable to all or part of the product range selected

Speed setpoint
Adjustable between 0 and 100 % of the no-load speed of the motor by PWM signal or by analogue 0-10 V signal, depending on the part numbers.
Torque limit
Adjustable between 10 % and 140 % of the nominal motor torque by PWM signal or analogue 0-10 V signal. If the control is at 0 % or 0 V or non-connected, the current limit is 140 %.
If the current in the motor reaches the specified limit, the "active limiting" output switches to the "+ supply voltage" value and the current in the motor is automatically limited.
Since the torque value is directly related to the current in the motor, the torque limit can be set in this way.
Holding torque
Activates if on/off= 1 and speed setpoint= 0.
Its value depends on the "torque limit" setpoint.
Encoder and actual direction of rotation outputs
These two related outputs are used for positioning purposes, using the "high-speed counting" function of a Millenium or other PLC with high-speed inputs (>40 K Hz in order to correctly manage the "actual direction of rotation" information and to be able to "upcount and downcount" without losing pulses on changing direction).
Overheating protection
If the supply voltage becomes insufficient, the protection activates and shuts off the motor. The motor restarts automatically as soon as the supply voltage returns to the operating range.
Undervoltage protection
If the supply voltage becomes insufficient, the protection activates and shuts off the motor. The motor restarts automatically as soon as the supply voltage returns to the operating range.

Principles

Braking
The value of the braking torque is adjustable and is controlled by the "torque limit" setpoint within limits linked to the reduction in the back electromotive force of the motor.
The electronic card includes a (limited) internal device for dissipating braking energy, which limits overvoltages to 40 V. This device is adequate for short braking cycles or if the braking energy is absorbed by another motor.
Example of usage restriction :
- Braking every 8 seconds of 14.5×10^{-4} kg.m^2 from 3000 rpm to 0 rpm.
- Braking every 8 seconds of 25.4×10^{-4} kg.m^2 from 2000 rpm to 0 rpm.
- Caution : If the specified limits are exceeded, this device will overheat and destroy the card.
In some cases, overvoltages due to braking must be prevented from returning to the power supply or other equipment (see "braking" in the basic concepts). For connections please refer to the guide supplied with the card.
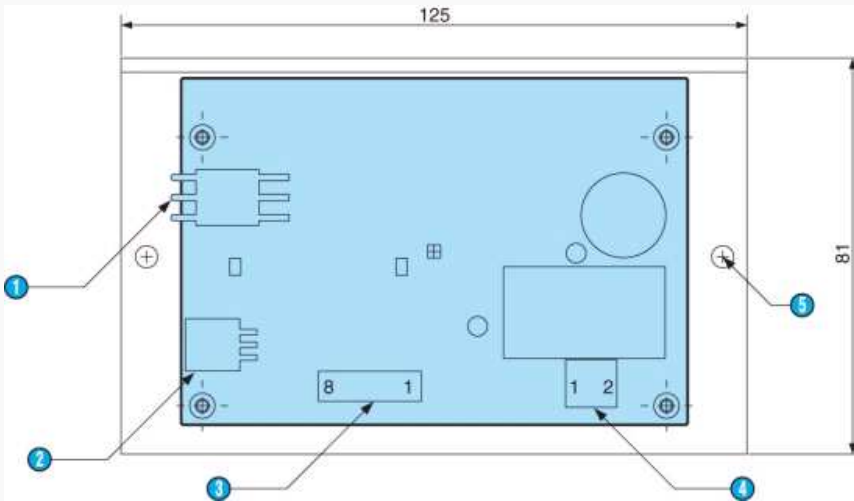
Curves
Motor 80140504
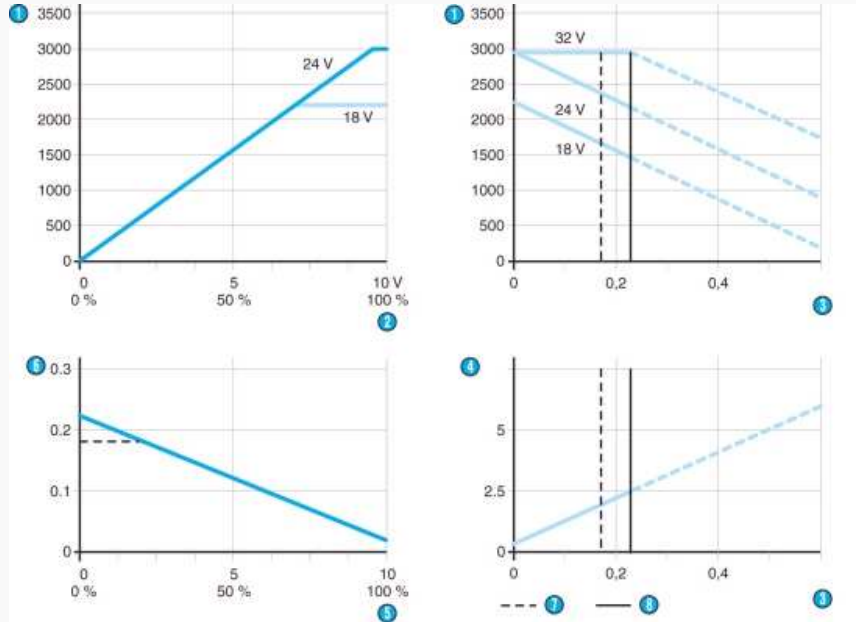
Nº	Legend
①	Speed (RPM)
②	Speed setpoint
③	Torque (Nm)
④	Current (A)
⑤	Torque limit setpoint
⑥	Torque limit
⑦	Nominal torque
⑧	Maximum torque

Unless otherwise specified, the characteristics given are applicable to all or part of the product range selected

Connections

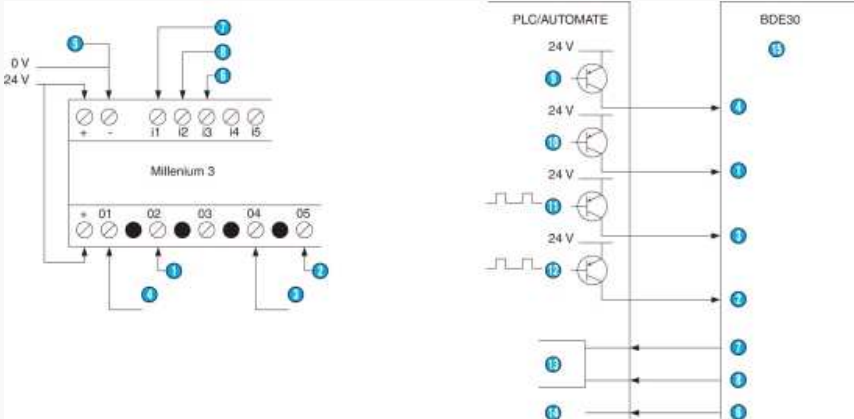| Nº	Legend
1	Motor windings
2	Hall effect sensor input
3	Control connector 1 - Direction input 2 - Torque limiting setpoint input 3 - Speed setpoint input 4 - On/off input 5 - Signal ground 6 - Torque saturation output 7 - 12 points/rev encoder output 8 - Direction encoder output
4	Supply connector (1 = + 24 V and 2 = 0 V)
5	Fixing holes 4.5 mm Ø, 114 mm apart
	Dimensions : 125 x 81 x 43

Connections

Examples of connection diagram with a Millenium 3 logic controller or a PLC

NB : The "tachometer" and "actual direction of rotation" card outputs must be connected to inputs i1 and i2 respectively in order to be able to use the Motomate high-speed counter function.

Nº	Legend
1	Direction input
2	Torque limit input
3	Speed setpoint input
4	On/off input
5	Ground

⑥	Active limiting output
⑦	12 points/rev encoder output
⑧	Direction of rotation output
⑨	Digital PNP output
⑩	Digital PNP output
⑪	PWM 100 Hz to 1 K Hz
⑫	PWM 100 Hz to 1 K Hz
⑬	24 V counter input (40 K Hz minimum)
⑭	24 V digital input
⑮	Control connector

Unless otherwise specified, the characteristics given are applicable to all or part of the product range selected