

BRUSHLESS MOTORS

SQ75 WITH INTEGRAL CONTROL

Powered by :

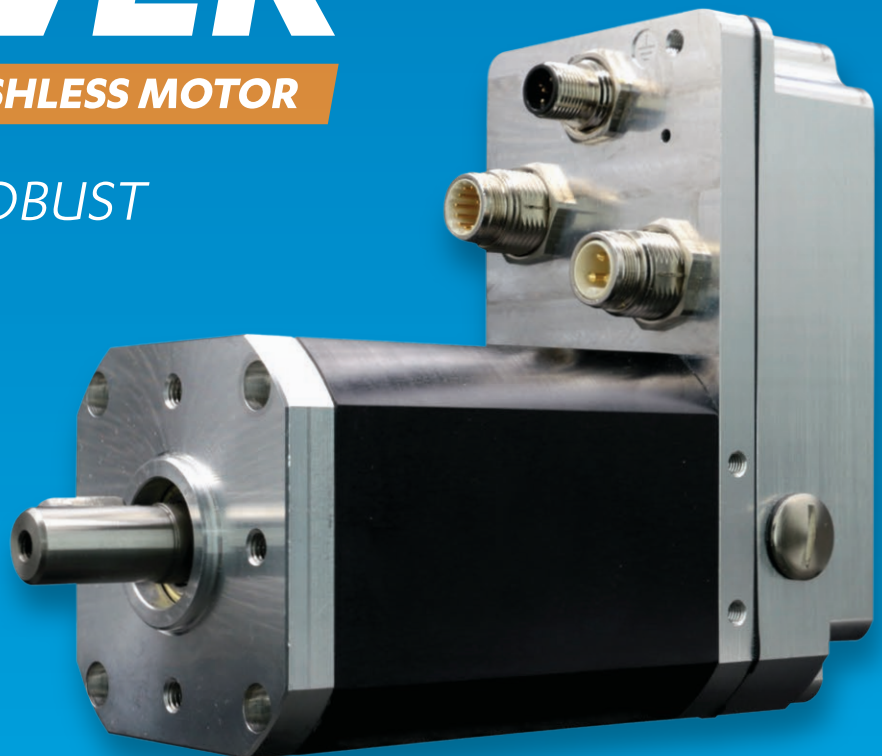


SMART POWER

SQ75 DCmind BRUSHLESS MOTOR





+EASY +SAFE +ROBUST

dcmind
BRUSHLESS
MOTORS



MEET CROUZET'S MOST POWERFUL BRUSHLESS MOTOR | SQ75 DCmind Brushless

The accuracy and efficiency you need - the ease of use you desire

Voltage (V) 	Power Range (W) 	Torque Range (mNm) 	Speed Range (rpm) 
9 - 75 Applied: 24/32/48	310 - 600	1000 - 1900	1 - 5000

✓ **Front face:** 75 mm

✓ **Integrated magnetic encoder:** 4096 ppr

✓ **Rating:** IP67 & IP69
Except front face & shaft

+CANopen Interface

STANDARD OFFER



P/N family:




80350



80360



80370

	Applied Voltage	24 V	32 V	48 V
	Nominal Power	310 W	400 W	600 W
	Nominal Torque	1.0 Nm	1.3 Nm	1.9 Nm
	Nominal Speed	3000 rpm	2960 rpm	3130 rpm
	Peak Power	600 W	900 W	1400 W
	Peak Torque	2.5 Nm	4 Nm	6 Nm
	Integrated CANopen	✓	✓	✓

To learn more about SQ75, visit www.crouzet.com

KEY BENEFITS

Easy Installation & Set-up

You are the master of your application, we make it simple for you

- Easily start your motor with a **standard USB cable and a PC**
- You are **protected against wrong polarity** in case of wrong wiring
- **Quickly set-up** your application with **DCmind soft + CANopen FREE software**
 - Easily define **motion profiles** (speed, torque, position)
 - Use the **pre-loaded application programs** to test your set-up
 - Draw curves, edit performance reports, tune regulation loops and more
- Constantly **check the motor's status** using the LED on the front face

Communication & Diagnosis

SQ75: at the heart of your network, yet locally empowered

- **CANopen interface** as per CiA 301 (certified) and CiA 402 for use as a slave in a **new or existing equipment**
- **USB and CAN dual communication** to perform **local set-up and diagnosis**
- Collect data for feedback and implement **preventive maintenance functions**

Security & Protection

We help you protect your application & people

- **SQ75 operates with up to 75 V input voltage**, or in case of regenerated voltage due to high inertial brake level
- The **energy rejection module** protects the motor during **high acceleration and deceleration phases**, using a software-enabled ballast resistor (customer added external resistor standard)
- **Emergency stop** management via 2 Safe Torque Off (STO) inputs
- **Galvanic isolation** of the CAN bus to prevent the control signal from interfering with the CAN network

Water & Dust Proof

SQ75 is made for harsh environments



The SQ75 is rated **IP67 and IP69** (except front face and shaft) as per IEC 60529; even the optional software-enabled 4.5 Nm brake version

Ready for Battery Operation

12 V or 24 V battery voltage - No problem!

The SQ75's **performance starts as low as 9V**- perfect for battery-operated applications such as service robots

CANopen



CE



CiA
301 & 402

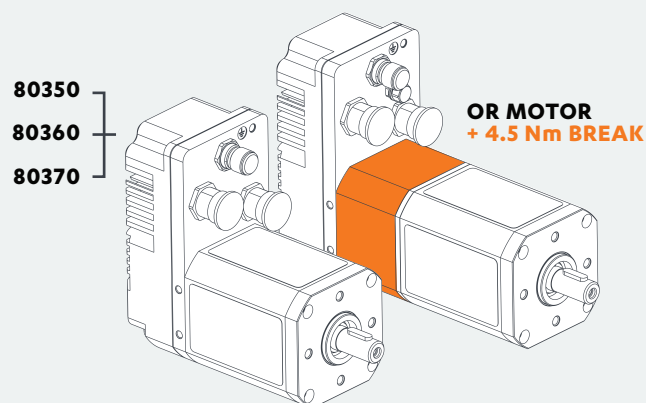


* UL Pending (2019)



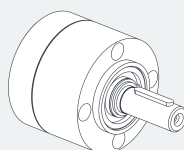
A WIDE RANGE OF POSSIBLE COMBINATIONS!

1 Choose The Motor

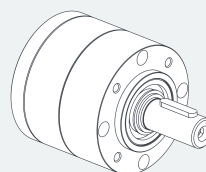


2 Choose The Gearbox

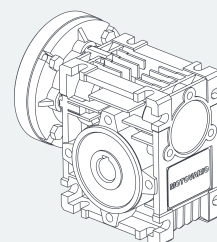
PLANETARY
GEARBOX | **PM72**
1 - 2 - 3 Stages



PLANETARY
GEARBOX | **P81**
1 - 2 - 3 Stages



RIGHT-ANGLE WORM
GEARBOX | **RAD20**



NEED EVEN MORE?

With **90+ years' experience** in precision motor engineering, Crouzet can provide the right solution for you. If you're looking for a reliable, experienced and trustworthy motion control partner, **Crouzet's DesignLAB** team is ready to help you. Contact our engineers now and we will be glad to discuss your specific needs.

DESIGN LAB

SQ75 COMMON APPLICATIONS

Access Control



Wrapping Machines



Conveyor Belts



Peristaltic Pumps



Intralogistics



Industrial Service Robots



Agbots



Defense Robotics



DCmind BRUSHLESS MOTORS

SQ75 motor with integrated SMi22 CANopen electronic board



- › DC Brushless motor for position, speed and torque control applications
- › High precision thanks to the 4096 position per turn magnetic encoder
- › CANopen Communication bus (CiA 301 compliant and implemented with CiA 402 drive profile)
- › Enhanced safety via 2 Safe Torque Off (STO) inputs
- › IP67 & IP69 direct drive according to IEC 60259 (except front face & shaft output)
- › Protection against wrong polarity



General characteristics

Type	80350	80360	80370
Part numbers	80350001	80360001	80370001
Nominal operating range	V \cdots 9 - 75	V \cdots 9 - 75	V \cdots 9 - 75
No-load characteristics	12V\cdots 24V\cdots 32V\cdots	24V\cdots 32V\cdots 48V\cdots	32V\cdots 48V\cdots 60V\cdots
Speed of rotation	rpm 1 700 3 230 4 500	rpm 2 601 3 270 5 000	rpm 2 300 3 420 4 320
Absorbed current	A 1.1 1 2.4	A 1 1 0.9	A 1 1 1
Standby current \pm 10 %	mA 50 50 50	mA 50 50 50	mA 50 50 50
Nominal characteristics	12V\cdots 24V\cdots 32V\cdots	24V\cdots 32V\cdots 48V\cdots	32V\cdots 48V\cdots 60V\cdots
Speed \pm 10 %	rpm 1 380 3 000 3 845	rpm 2 230 2 960 4 540	rpm 2 000 3 130 3 890
Torque	N.m 1 1 1	N.m 1.3 1.3 1.3	N.m 1.9 1.9 1.9
Absorbed current	A 15.4 15.4 15.4	A 14.4 14.4 14.4	A 15.1 15.1 15.1
Output power \pm 10 %	W 145 314 400	W 304 403 618	W 398 623 700
Efficiency	% 78 85 82	% 85 87 87	% 80 86 78
Maximal characteristics	12V\cdots 24V\cdots 32V\cdots	24V\cdots 32V\cdots 48V\cdots	32V\cdots 48V\cdots 60V\cdots
Speed	rpm 1 000 2 310 3 100	rpm 1 650 2 160 3 540	rpm 1 650 2 340 3 170
Torque	N.m 2.5 2.5 2.5	N.m 4 4 4	N.m 5 6 6
Output power \pm 10 %	W 262 600 750	W 691 905 1 483	W 864 1 470 1 800
Absorbed current	A 34.5 34.5 34.5	A 42 42 42	A 40 44 44
Efficiency	% 60 74 68	% 67 69 71	% 67 70 68
Other characteristics			
Cogging Torque	mNm 45 45 45	mNm 50 50 50	mNm 55 55 55
Weight	Kg 2.4 2.4 2.4	Kg 2.7 2.7 2.7	Kg 3.3 3.3 3.3

Accessories

Description	Part numbers
Starter kit: Dc mind Soft+CANopen software - Power/logic/CAN 3 m cables - USB to CANopen adaptor - CAN terminal resistor - CAN double connector	79513105
Power supply cable M16, 3 m length AWG18	79298664
Input-Output cable M16, 3 m length AWG24	79513106
CAN cable M12, 1 m length AWG26	27358015

Combinations

① Choose The Motor

② Choose The Gearbox

You have a project? Contact us on www.crouzet.com

Description:

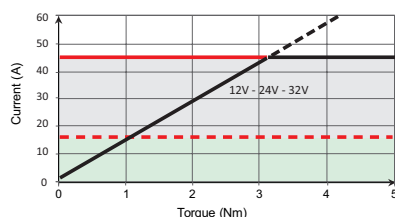
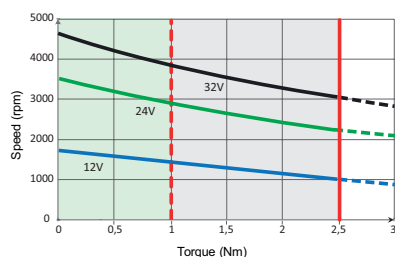
The new SQ75 DCmind Brushless motors have an integrated drive and CANopen communication bus for Motion Control applications up to 600 W nominal power and up to 6 Nm peak torque. More power, accurate precision, as well as enhanced safety and security features to secure your application.

For more information about Crouzet's SQ75 range, please visit www.crouzet.com.

Curves

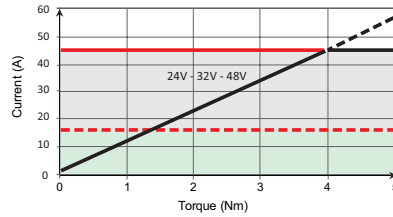
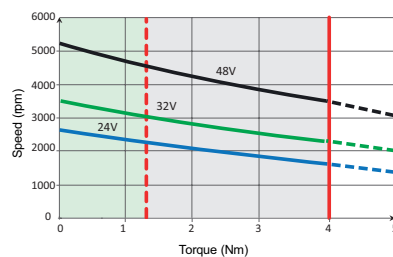
Speed-torque and current-torque

80350



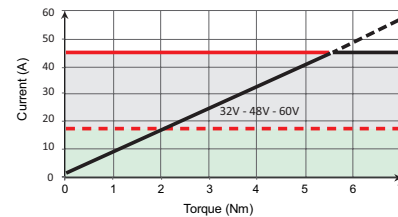
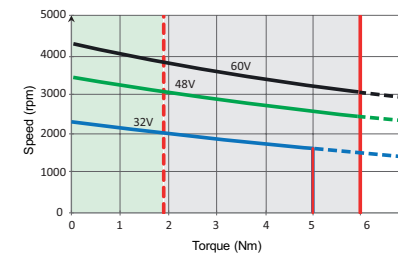
--- Nominal torque
— Peak torque

80360



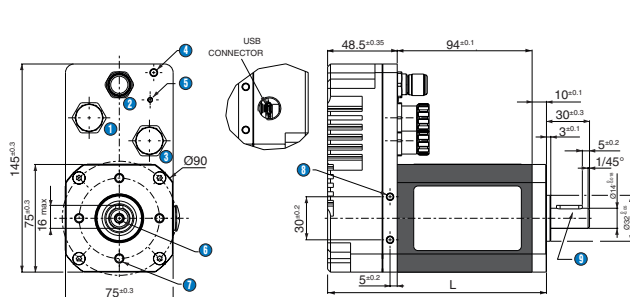
Continuous running area
Cycling running area

80370



Dimensions (mm)

80350 - 80360 - 80370



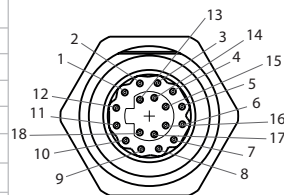
- 1 Logic connector
- 2 CAN connector
- 3 Power supply connector
- 4 M5 x 0.8 depth 7
- 5 2 colors LED for motor status
- 6 M5 x 0.8 depth thread 12
- 7 M6 x 1 at 90° on Ø56 depth 10.5
- 8 M5 x 0.8 depth 11.5
- 9 Parallel key 5 x 5 x 18 DIN 6885 A

L: 80350 140.6 max - L: 80360 153.1 max - L: 80370 178.1 max

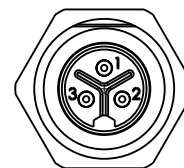
Connection

Input / Output M16 connector - 18 pins

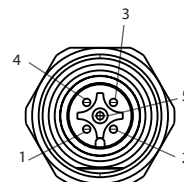
Pin	Description	Pin	Description
1	Optional logic supply	14	0 volt
2	0 volt	15	STO2-
3	Input 6 (analogic 1)	16	STO2+
4	Input 5 (analogic 2)	17	STO1-
5	Input 1 (digital)	18	STO1+
6	Input 2 (digital)		
7	Input 3 (digital)		
8	Input 4 (digital)		
9	0 volt		
10	Output 1 (digital - PMW)		
11	Output 2 (digital - PMW)		
12	Output 3 (digital)		
13	Output 4 (digital)		



Pin	Power supply M16 - 3 pins
	Description
1 W i e	Output ballast
2 Brown	+VDC
3 Green	0 volt



Pin	CAN - M12 - 5 pins
	Description
1	Not connected
2	Not connected
3	CAN_GND
4	CAN_H
5	CAN_L



User information

Product User Manual available on website, please read it before use.

Products on request

Please contact our Design LAB on www.crouzet.com. Examples: special shaft - board adaptation...

Warning:

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UNDERSTANDING CROUZET'S DCMIND BRUSHLESS MOTORS OFFERING



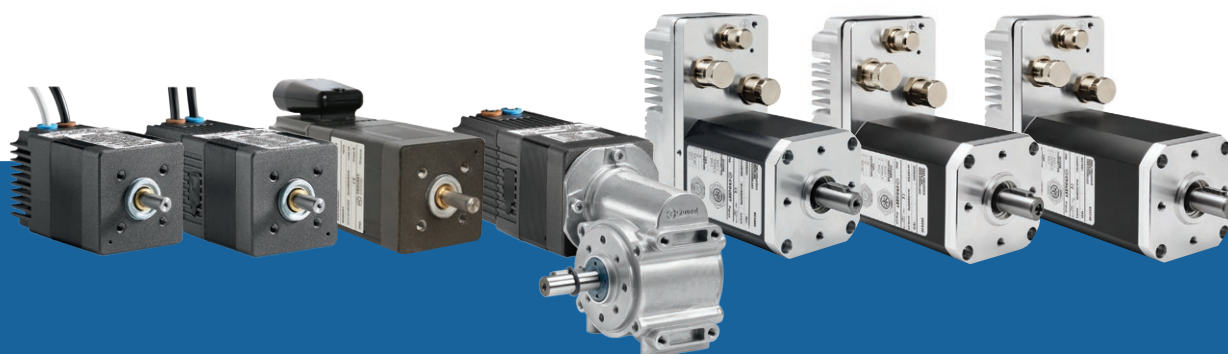
SQ57 FAMILY



SQ75 FAMILY

	57		75
Front Face (mm)			
Nominal power range (W)	77 - 170		310 – 600
Integrated electronics	TNi21	SMi21 SMi21 CAN	SMi22 CAN
Range of power supply (V)	10 - 36	9 - 75	9 - 75
Nominal velocity (rpm)	3250 – 4000	2865 – 3900	2960 - 3130
Nominal torque (mNm)	185 – 390	225 – 565	1000 - 1900
Encoder resolution (ppr)	12 – 24	4096	4096
Communication	USB	USB & CANopen	USB & CANopen
Programming Software	No	DCmind Soft & DCmind Soft + CANopen	DCmind Soft + CANopen
Control functionalities	Speed & Torque Control	Position, Speed & Torque Control	Position, Speed & Torque Control
IP level	IP54, up IP65* (please contact us)		IP67* & IP69*
Holding Brake option	External - 0.5 Nm		Internal - 4.5 Nm
Planetary gearboxes	P52, P62, P81		PM72, P81
Right-angle Worm gearboxes	RAD10		RAD20

* Except front face and shaft



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