

ST23

Integrated Step Motor



Integrated step motor represents ideal high tech low cost solution for industrial application designer which want the simplicity of the motor with on-board electronics. The integrated electronics simplifies cabling of machine, reducing problems due to electrical noise.

FEATURES

- Low cost.
- Bipolar chopper drive with microstepping facility.
- Open loop or closed loop control.
- Programmable step angle from 200 ppr (Full Step) up to 25600 ppr (1/128).
- Single power supply or dual power supply (optional).
- Clock/Dir or Bus communication control
- 6 Optocoupled input.
- 2 Open collector output (500 mA)
- Dedicated INPUT:
 - ✓ Clock.
 - ✓ Direction.
 - ✓ Enable.
- Protection :
 - ✓ Max. bus voltage.
 - ✓ Min. bus voltage.
 - ✓ Max. Temperature (electronic area).
 - ✓ Max. continuous over current (i^2t).
 - ✓ Following error (closed loop).
- RS485 or CanBus communication.
- Protocol : ModBus (RS485) or CanOpen (CanBus).
- Instruction list language (ModBus version) to create your programm (up to 512 instructions).
- Automatic current reduction.
- Firmware update by RS485.
- Special resident functions
 - ✓ Homing.
 - ✓ Rotary logic.
- EMI compliant.

GENERAL SPECIFICATIONS

Power Input voltage (+V)

Range..... +24 to +60 VDC

I/O

2 opto-coupled high speed digital inputs..... 400 Khz

4 opto-coupled low speed digital inputs..... 5 Khz

2 open collector output..... 500 mA

Voltage range..... 0 to +24 VDC

Communication

Link..... RS485 / CanBus

Protocol..... ModBus /CanOpen

Baud Rate ModBus..... 19200 bps

Baud Rate CanBus..... up to 1 Mb

Motion

Microstep resolution (open loop)..... up to 25600 step/rev.

Optical encoder (closed loop)..... up to 5000 step/rev.

Protection

Over voltage..... 85 VDC

Under voltage..... 18 VDC

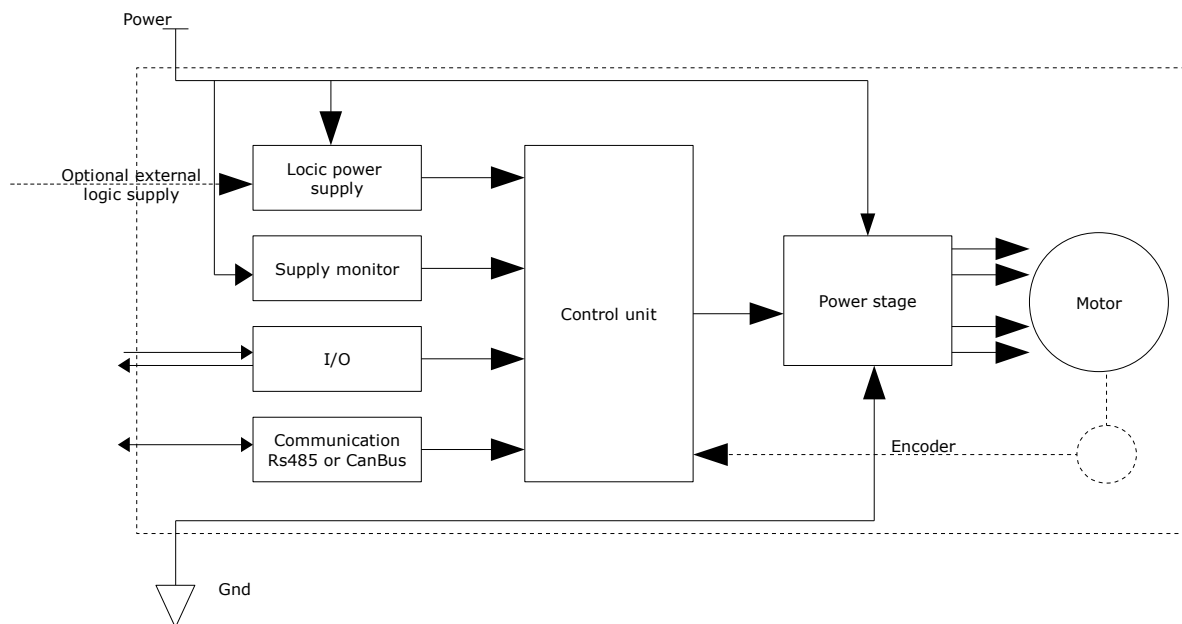
Over Temperature..... 85°C

Motor Protection..... i^2t

Thermal consideration

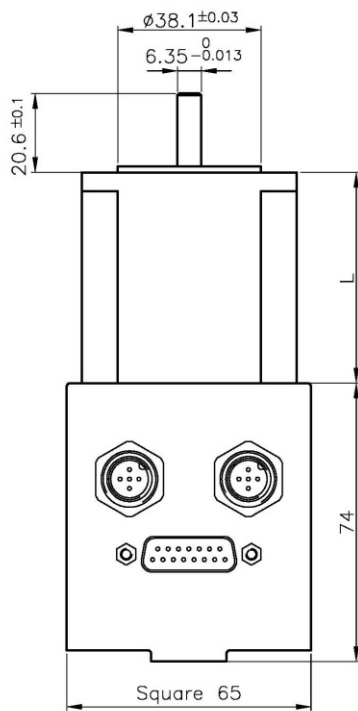
Working temperature depends on the thermal exchange between motor flange and mounting plate. For more information contact manufacturer

BLOCK DIAGRAM

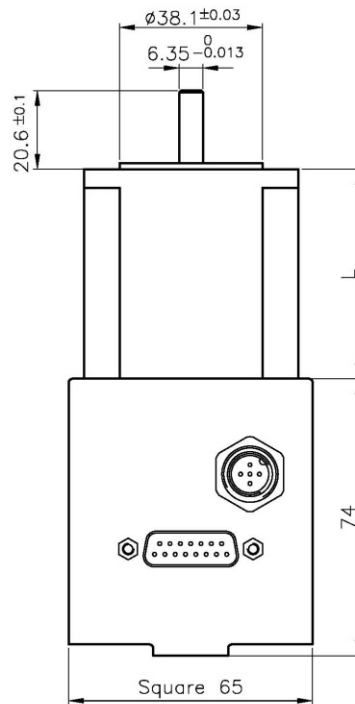


INTEGRATED MOTOR SPECIFICATIONS

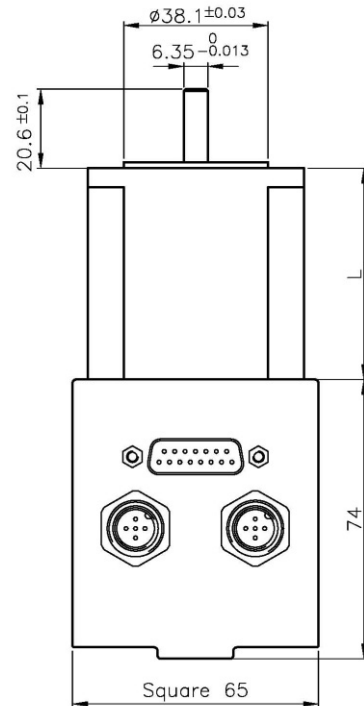
Motor type	041	56	076
Step angle	1,8°		
Step angle accuracy %	±5%		
Max. radial force	75N @ 20mm from the flange		
Max. axial force	15N		
Detent Torque Ncm	2,1	4	6,8
Holding Torque Ncm	55	126	189
Rotor inertia gr-cm ²	120	300	480
L = Length mm	41	56	76
Weight Kg	0,45	0,7	1



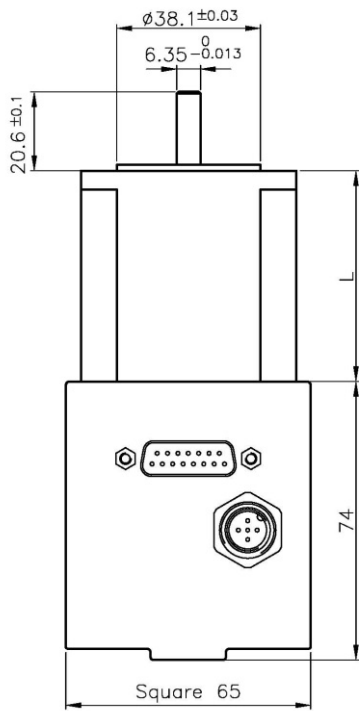
**2 canbus connectors
with optical encoder**



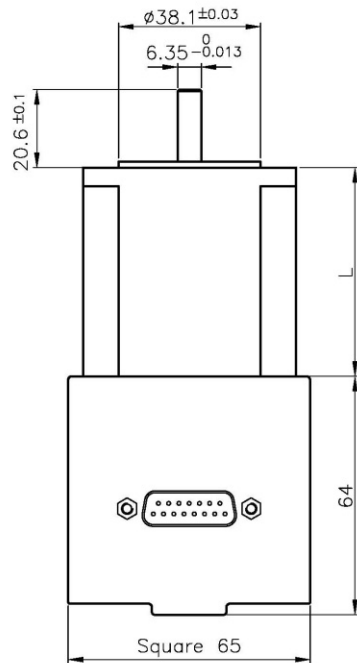
**1 canbus connectors
with optical encoder**



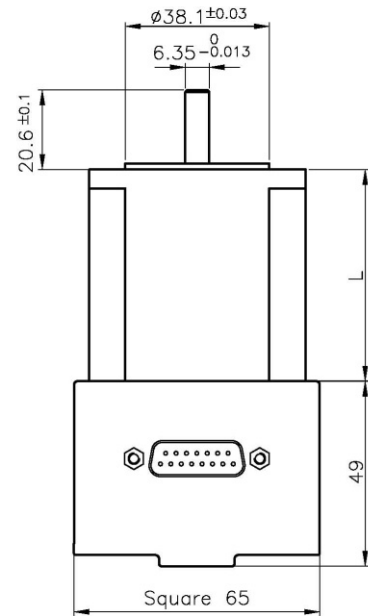
**2 canbus connectors
with/without magnetic
encoder**



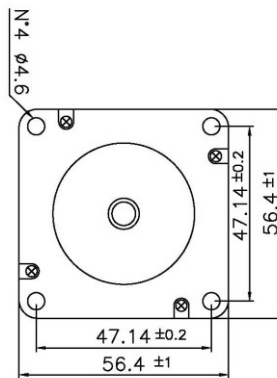
**1 canbus connectors
with/without
magnetic encoder**



**Modbus with optical
encoder**



**Modbus with/without
magnetic encoder**

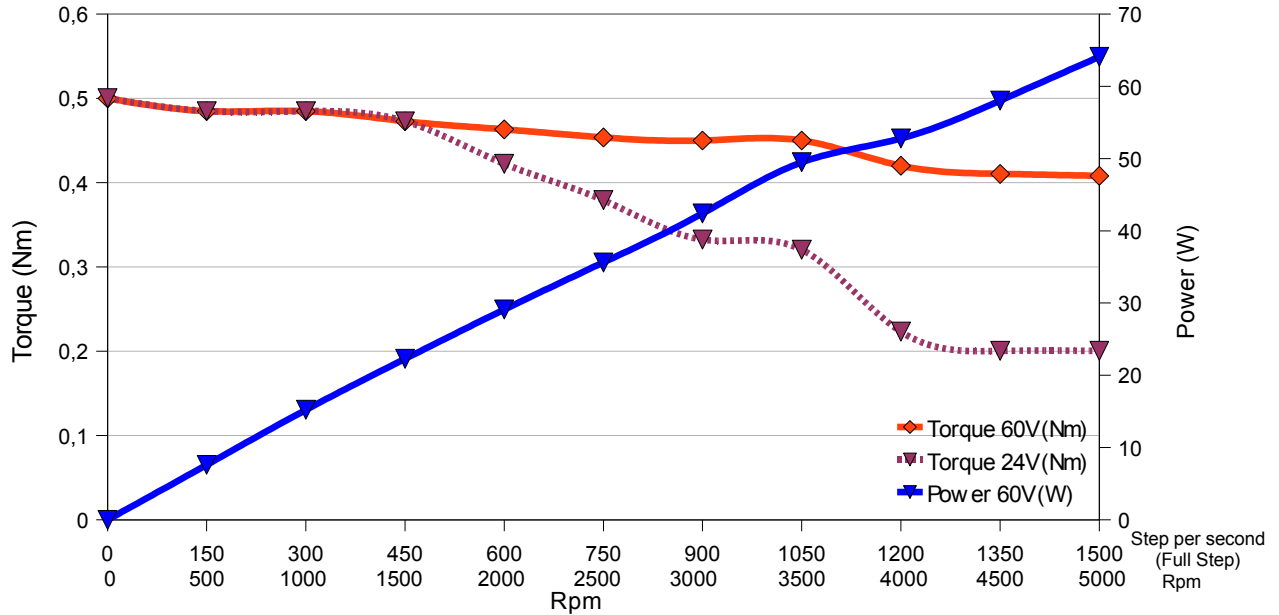


Flange

PULL OUT TORQUE CURVE

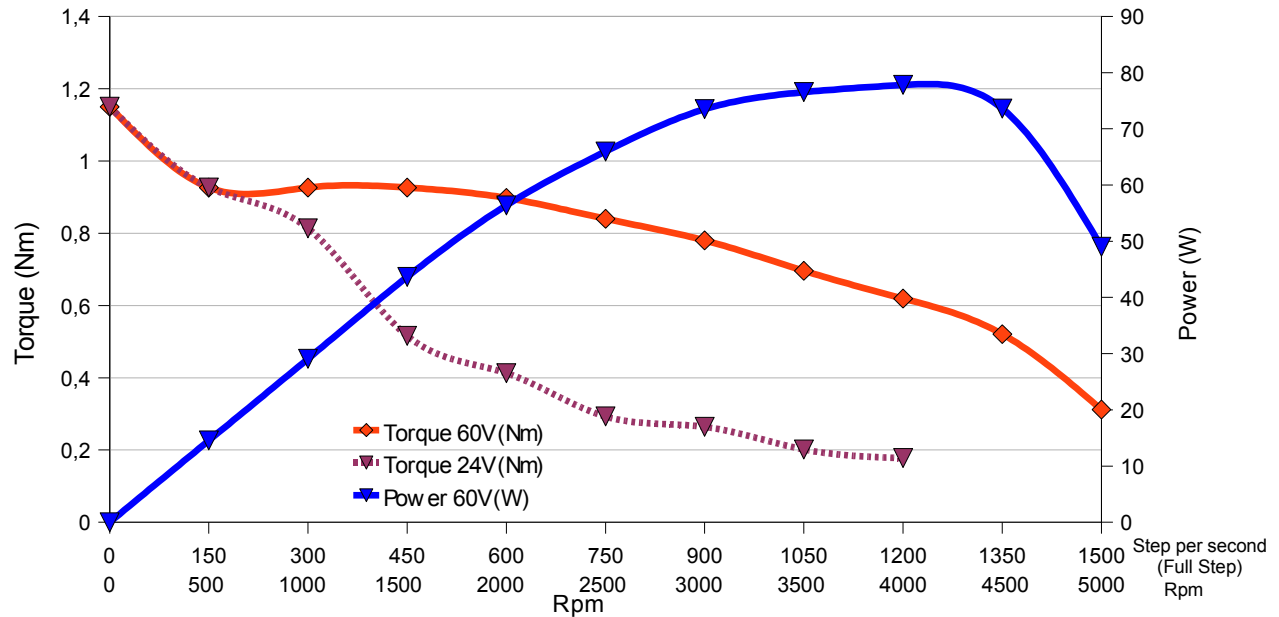
041

Vbus = 24 e 60 Vdc ; I = 2,8 Arms/Phase()



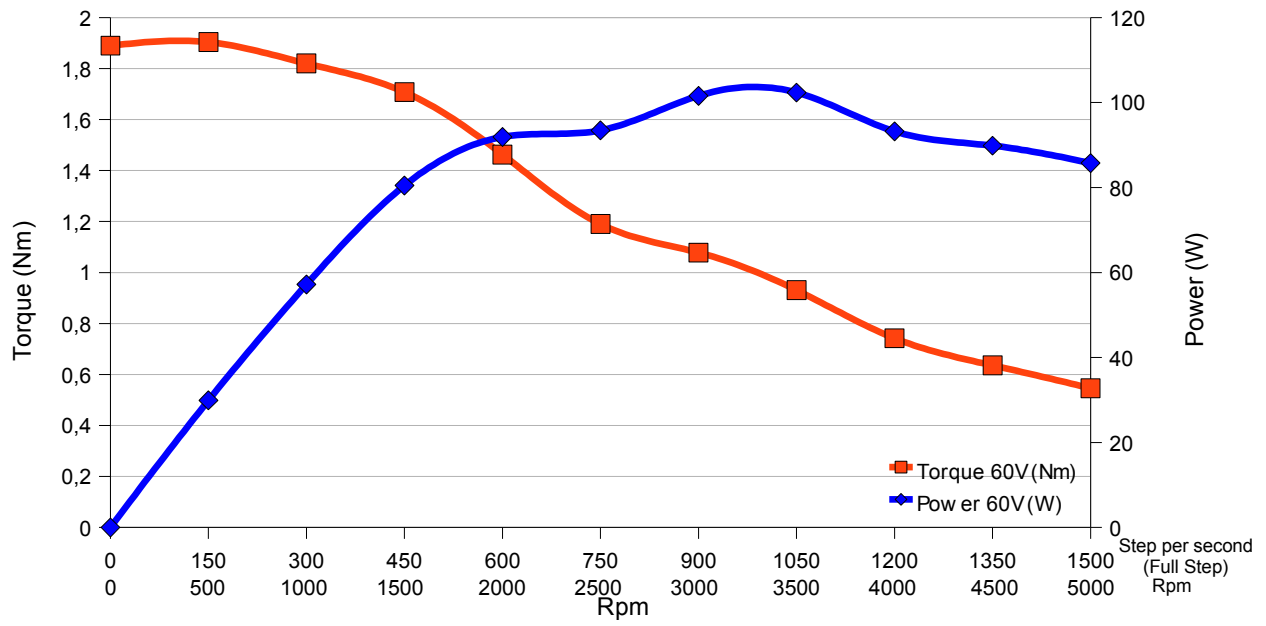
056

Vbus = 24 e 60 Vdc ; I = 2,8 Arms/Phase()

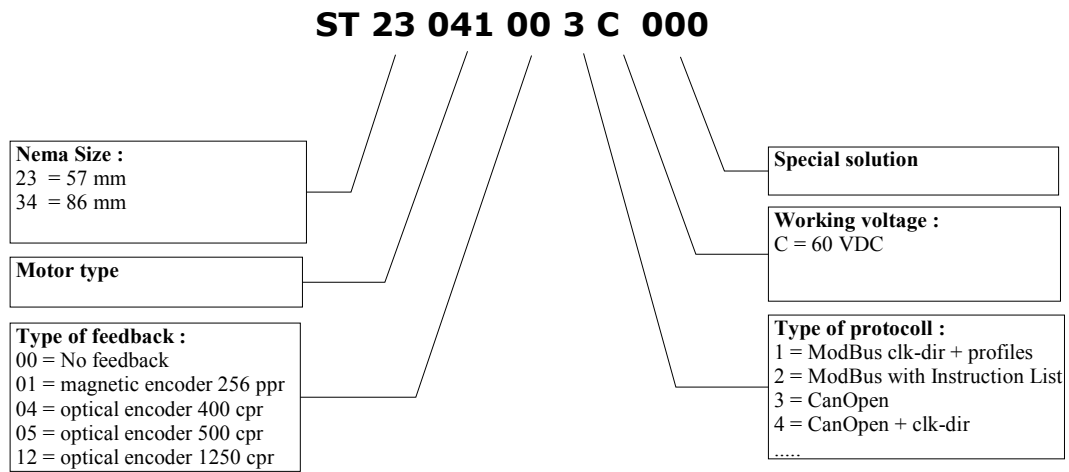


076

Vbus = 60 Vdc ; I = 2,8 Arms/Phase()



ORDERING INFORMATION



N.B.

SP.EL. reserves the right to make changes without further notice to any products herein.