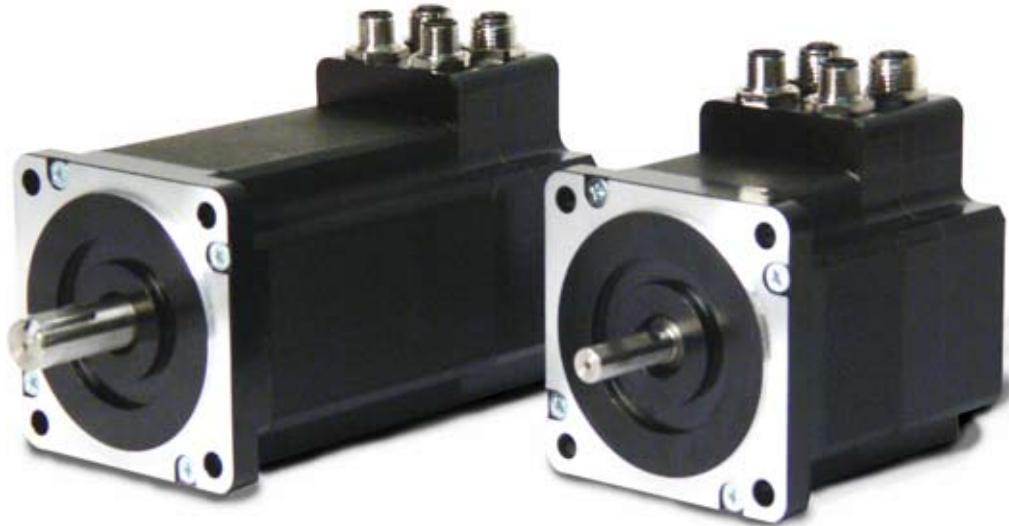# QuickStep, integrated stepper motor MIS340, MIS341 and MIS342 up to 9 Nm

The Quickstep series of stepper motors with integrated electronics represents a major step forward. The stepper motor, encoder, driver, controller, indexer are build into the motor so they from a closed unit with high IP protection. The integrated motor provides easy setup, programming, installation and use.

The advantage of this solution are:
- Compact. Does not take space in cabinet.
- De-central intelligence. PLC build in.
- Simple installation. No cable between motor and driver.
- EMC safe. Switching noise remains in the motor.
- Low cost compared to step or servomotor with separate driver.

The new integrated stepper motor offer RS485 and CANopen serial interface and programmable motion controller. Wireless or Industrial Ethernet are optional. All the necessary electronics in a stepper system are integrated in the motor itself. The newest technology have been used to obtain an incredibly high step resolution of 819200 step/revolution resulting in unsurpassed smoothness and silent running. MIS340 with 3Nm

is only 95 mm (3,74") long and MIS342 with 9Nm only 156mm (6,14") and it is therefore the shortest motor in the world with built-in controller.

The motor contains everything needed to solve a modern control task as stand-alone or controlled from a PLC or PC. 8 I/O points can be individually configured to digital input, digital output or analogue input. Modbus RTU and CANopen provide easy connections to a PLC or HMI. An ActiveX/OCX driver is available to make interfacing to LabView, Excel, VB or other Windows-programs simple. The MAC motor standard protocol enables MAC motors and QuickStep motors and SMC85 controllers to be connected on the same RS485 bus with up to 254 axes.

- Shortest length in the industry only 95 mm for 3 Nm
- Resolution up to 819200 step/rev equal to 4096 microsteps per fullstep.
- Velocity precision 0.01 RPM. Acceleration precision 1 RPM/sec.
- Built-in PLC with 8 I/O: each DI or DO 24V or 0-5V (12bit) analogue input with advanced input filtering.
- RS485 up to 921 kbit and Modbus RTU.
- Option: RS422 and RS485 for encoder I/O and connection to ex

ternal HMI or PLC
- Point-to-point or multiaxis operation up to 254 axes on the same RS485 bus
- CANbus with CANopen DSP402 and DS301
- Option: Pulse/Direction mode for electronic gearing
- Prepared for High speed position capture
- Wide Supply range from 12-80 VDC delivering high torque at high speed
- Motor current 0-9 Amp RMS, 12.6 Amp Peak
- Dual supply maintain position values etc in emergency-stop situations
- ActiveX / OCX driver available as well as MacTalk protocol
- Powerful graphic programming with +-*/ calculations and advanced functions
- All connections with M12 connectors, IP67
- Option for double shaft and encoder single or multi turn

The integrated stepper motor can be delivered with wireless Bluetooth, ZigBee or WLAN. The motor is also prepared for future options like Profibus and Industrial Ethernet like EtherCAT and EtherNet/IP and absolute multiturn encoder without external battery. The PCB with stepper motor controller as used inside the motor is also available as type no. SMC85.

Flange size is 86x86 mm which corresponds to the NEMA34 standard and shaft diameter can be either 9.53 mm or 14 mm with key depending on type.

Modes of Operation

CAN Open:
CANbus or CANopen can be used in together with RS485 communication and PLC function. CAN Open slave module with baudrate up to 1Mbit. CANopen DS301 V3.0 and DSP 402 V2.0. All registers of the in the motor can be read and written Notice that CANopen only are available on the Q9 version. Devicenet and Profibus are planned.
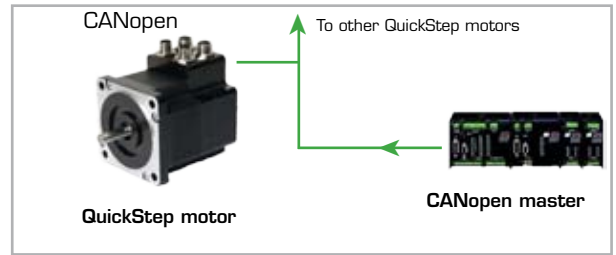
Wireless :
Bluetooth, WLAN, IEEE802.15.4 and Zigbee wireless module. For many applications, wireless communications is superior to cabled solutions. Eg for handheld remote control, battery operated trucks or flying machine to replace slip rings. No more broken cables or loose connections. Cost savings during installation and maintenance. Easier to move around and change equipment. Distributed intelligence when it is best.
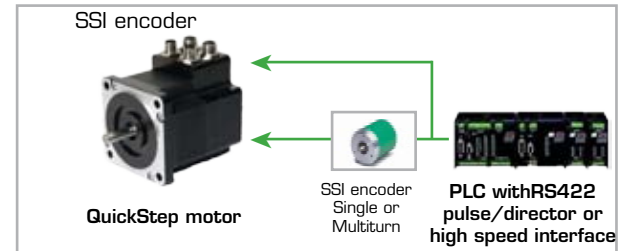
Industrial Ethernet:
Industrial Ethernet are the new way to control motors and more and more PLC manufactures have it build in. The benefit for Industrial Ethernet are the worldwide acceptance from many companies like Beackhoff (EtherCAT), Siemens (Profinet), Rockwell (EtherNet/IP), B&R (Powerlink) but also Modbus TCP and Sercos III are known. It offer very high response time and 100Mbit communications speed. JVL will first launch EtherCAT and Ethernet/IP but please ask for the latest information.
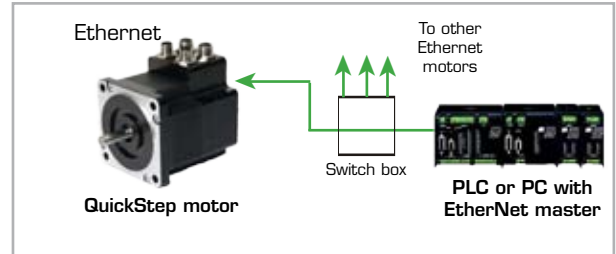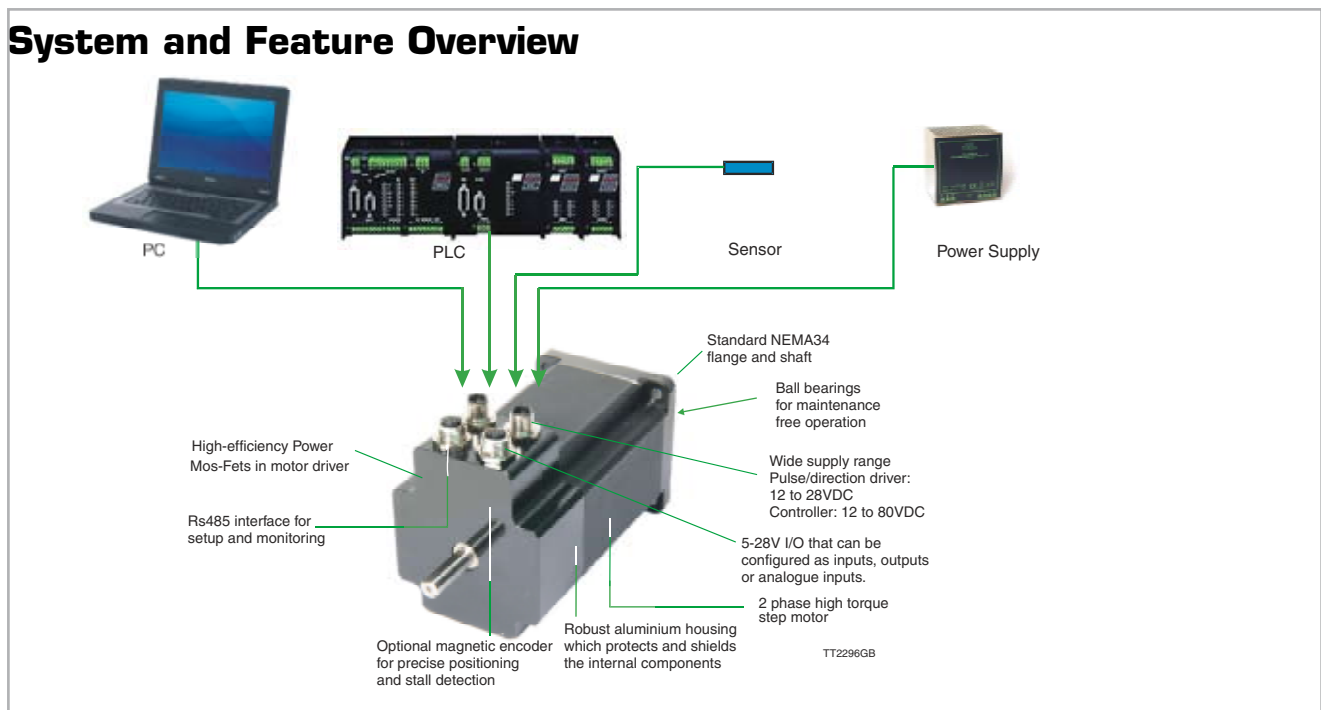
SSI encoder / RS422 :
An external encoder with SSI interface can be connected to a special dedicated SSI connector. Via the build in PLC can 2 outputs in the connector be activated to make a Zero setting of the encoder and change counting direction. Power 24VDC for the encoder are also available so the encoder can be connected directly to 1pcs M12 connector without any need for external wire or power supply. The SSI connector contain 2 RS422 ports that can be used for other purposes like pulse direction or highspeed serial interface to external equipment. Please contact JVL for further details. Notice that SSI interface only are available on the Q9 version.

CANopen

To other QuickStep motors

QuickStep motor

CANopen master

Wireless

QuickStep motor

PC/PLC with WLAN Bluetooth or Zigbee

Ethernet

To other Ethernet motors

QuickStep motor

Switch box

PLC or PC with EtherNet master

SSI encoder

QuickStep motor

SSI encoder Single or Multiturn

PLC withRS422 pulse/director or high speed interface

System and Feature Overview

PC

PLC

Sensor

Power Supply

Standard NEMA34 flange and shaft

Ball bearings for maintenance free operation

Wide supply range Pulse/direction driver: 12 to 28VDC Controller: 12 to 80VDC

High-efficiency Power Mos-Fets in motor driver

Rs485 interface for setup and monitoring

5-28V I/O that can be configured as inputs, outputs or analogue inputs.

Optional magnetic encoder for precise positioning and stall detection

Robust aluminium housing which protects and shields the internal components

2 phase high torque step motor

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Interface and operation mode

Positioning and Velocity Mode

In this mode the QuickStep motor positions the motor via commands sent over the serial interface. Various operating parameters can be changed continuously while the motor is running. This mode of operation is used primarily in systems where the Controller is permanently connected to a PC/PLC via the interface. This mode is also well suited for setting up and testing systems. The mode is also used when programming is made.
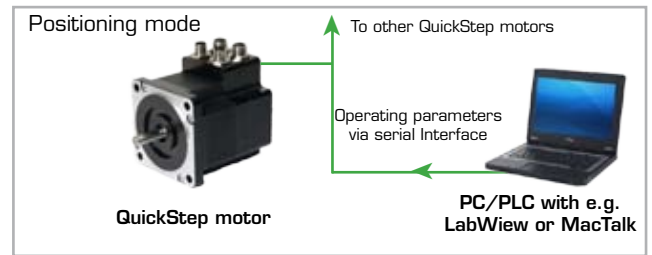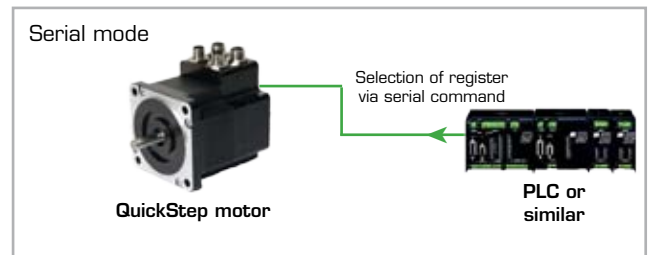
Gear Mode

In this mode the QuickStep motor functions as in a step motor driver. The motor moves one step each time a voltage pulse is applied to the step-pulse input. Velocity, acceleration and deceleration are determined by the external frequency, but can be limited and controlled by the QuickStep motor. In addition, the QuickStep motor also provides a facility for electronic gearing at a keyed-in ratio.
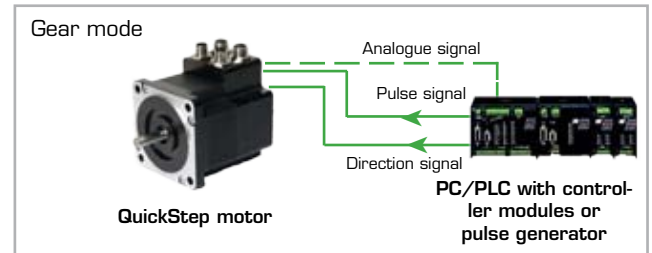
Serial Mode

In this mode the QuickStep motor's registers contain the positions, velocities, accelerations, etc., required for the actual system. The registers can be selected and executed by a single byte sent via the serial interface. This mode provides maximum utilisation of the QuickStep motor's features since the QuickStep motor itself takes care of the entire positioning sequence.

Positioning mode
To other QuickStep motors
Operating parameters via serial Interface
QuickStep motor
PC/PLC with e.g. LabWiew or MacTalk

Gear mode
Analogue signal
Pulse signal
Direction signal
QuickStep motor
PC/PLC with controller modules or pulse generator

Serial mode
Selection of register via serial command
QuickStep motor
PLC or similar

Positioning/Speed Control version
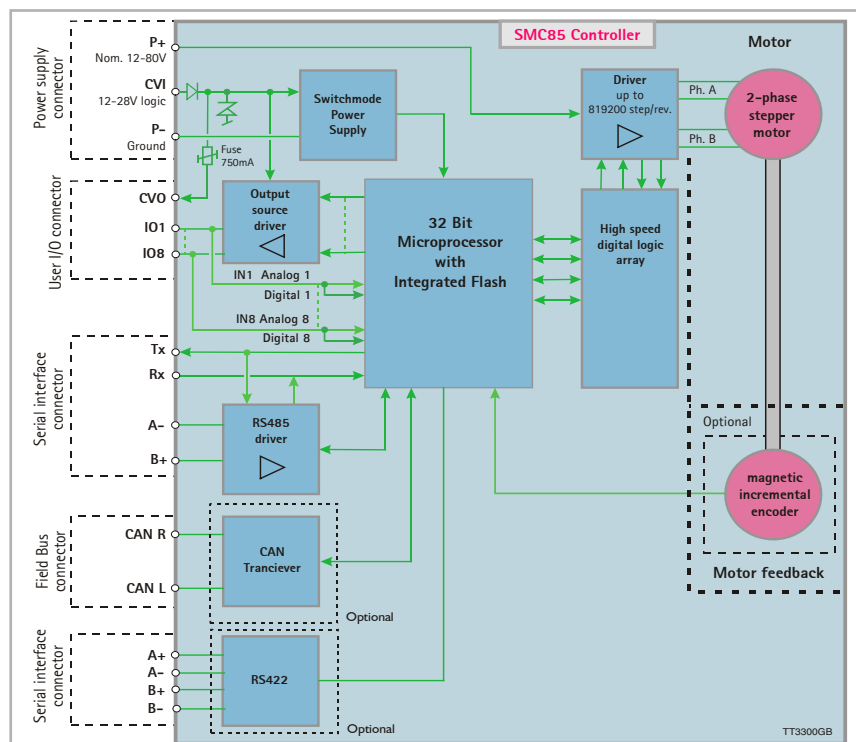
Setup and programming with software MacTalk

Setup save/open
The complete setup can be either saved or reloaded from a file using these buttons

Startup mode
The basic functionality of the unit is setup in this field.

Profile Data
All the main parameters for controlling the motor behaviour are setup in this field.

Driver Parameters
These fields are used to define standby and running current.

Gear Factor
The gear ratio can be entered here

Motion Parameters
The distance the motor has to run is entered here

System control
Use these buttons to save data permanently, reset the motor etc.

Zero Search
All the parameters regarding the position zero search can be specified here.

Autocorrection
The parameters used to get the correct position, if it is a motor with encoder

Error Handling
Use these fields to define error limits for the position range etc.

Communication
The actual address of the motor can be entered here

Motor status
This field shows the actual motor load, position and speed etc.

Run status
Shows what the status of the motor is. The Bus voltage for the motor and the temperature of the driver is also shown

Inputs
The status of the digital inputs are shown her and the analogue value

Outputs
The status of the outputs are shown here and can be activated by the cursor

Errors
If a fatal error occurs, information will be displayed here.

Warnings
Here different warnings are shown

Help Line
Left area: If parameters entered are outside their normal values, errors are shown here.
Right area: Here it is possible to see if a motor is connected, the type, version and serial no.

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MacTalk introduction

The MacTalk software is the main interface for setting up the QuickStep motor for a specific application. The program offers the following features:

- Choice of the operating mode of the QuickStep motor.
- Changing main parameters such as speed, motor current, zero search type, etc.
- Monitoring the actual motor parameters in real time, such as supply voltage, input status, etc.
- Changing protection limits such as position limits.
- Saving all current parameters to disc.
- Restoring all parameters from disc.
- Saving all parameters permanently in the motor.
- Updating the motor firmware or MacTalk software from the internet or a file.

The main window of the program changes according to the selected mode, thus only showing the relevant parameters for operation in the selected mode.

Command toolbox description

The toolbox used for the programming covers 14 different command types. The idea for the commands - is to have an easy access to the most common functions in the motor. Some functions seems to be missing by the first sight but the botton "Set register in the QuickStep motor" or "Wait for a register value before continueing" gives direct access to +50 registers down in the basic QuickStep motor such as the gear ratio or the actual torque register.
In total this gives a very power full programming tool since >95% of a typical program can be build using the simple command icons and the last part is optained by accessing the basic motor registers directly.
Below is a short description of all 14 command icons.

Use: Initiates any motor movement relative or absolute.

Use: Inserts a remark/ Comment in the program source code.

Use: Set the motor in the desired mode such as position- or velocity mode.

Use: Set a certain state at one or multiple digital outputs.

Use: Unconditional jump from one program line to another.

Use: Conditional jump from one program line to another. Input dependent

Use: Inserts a delay in the program specified in milliseconds.

Use: Wait for a certain state at one or multiple digital inputs.

Use: Write a value to almost any register in the basic unit.
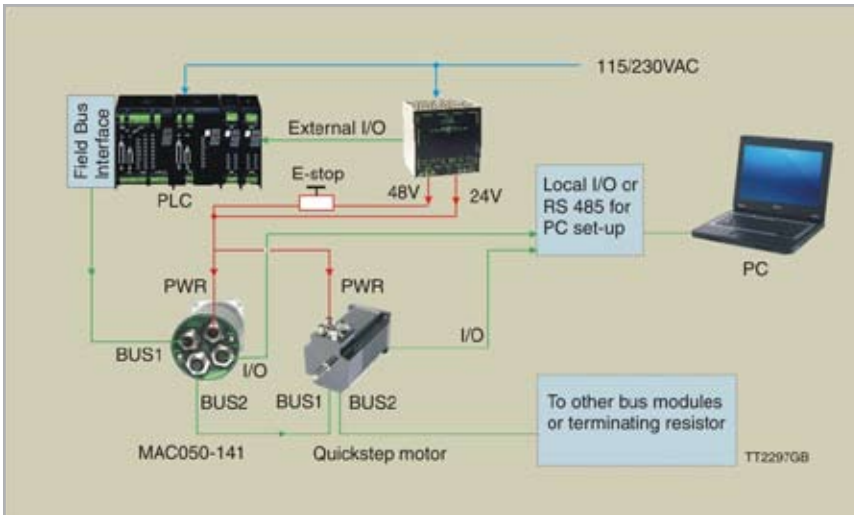
Use: Wait for a certain state at one or more of the digital inputs.

Use: Initiates a zero search to a sensor or a torque (no sensor).
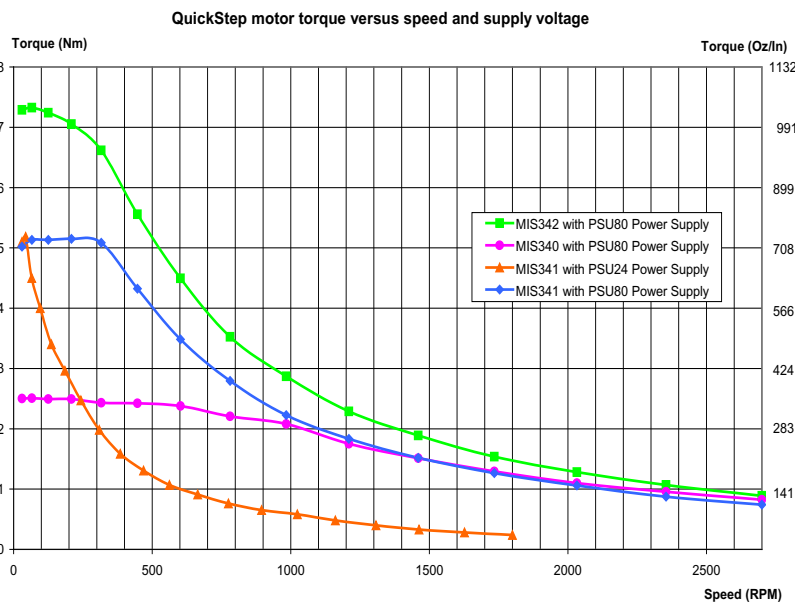
Use: Preset the position counter to a certain value.

Use: Conditional jump from one program line to another. Register dependent

Use: Save the actual motor position to an intermediate register.

TT0987GB

Quickstep and MAC motor in an RS485 or CANbus network

Accessories

RS485-M12-1-5 cable for M12, 5pin to RS485 USB. 5m	
RS485-USB-ATC-820 USB to RS485 adaptor. 0.5m	
WI1000-M12xxVxxN M12, angled female/ male cable can be delivered.	
WI1000-M12xxTxxN M12, straight female/ male cable can be delivered.	
PSU24-075 PSU 24VDC/3.2A, 75W. 85-264VAC DIN Switch-mode. UL/CE approved. DIN rail.	
PSU48-240. PSU48VDC/5A. 240W. 100-240 VACSwitch- mode power supply. UL/CE approved. DIN rail. HxDxW = 126x100x126mm.	
PSU80-4 Unregulated power sup- ply 400 WRMS 1200W peak. 19"or base plate mounting. 70-80 VDC	
MacTalk MAC motor Windows software for setup and programming	
MacRegio Windows software for protocol analyses and understanding.	
MACCOMM OCX/active x driver for Windows programs	

Torque versus speed

QuickStep motor torque versus speed and supply voltage

- MIS342 with PSU80 Power Supply
- MIS340 with PSU80 Power Supply
- MIS341 with PSU24 Power Supply
- MIS341 with PSU80 Power Supply

Motor Specifications

Motor Type	MIS340	MIS341	MIS342	Unit
Holding Torque	3.0 [424]	6.1 [863]	9.0 [1274]	Nm [Oz/In]
Running Torque	2.5 [354]	5.1 [722]	7.2 [1019]	Nm [Oz/In]
Inertia	1.4 [0.0198]	2.7 [0.0382]	4.0 [0.0566]	kgcm^2 [Qz-In-in^2]
Length (L)	95.0 [3.74]	126.0 [4.96]	156.0 [6.14]	mm [inch]
Shaft dia. (D)	9.53* [0,37]	9.53* [0,37]	14.0 [0,37]	mm [inch]
d	9.0 [0.35]	9.0 [0.35]	13.0 [0.51]	mm [inch]
Weight	2.2 [4.84]	3.3 [7.26]	4.5 [9.9]	Kg [lb]
*Optional 14[0.55]				

(Position control)

	Min.	Max.	Absolute Max.	Unit
P+	12	80	–	VDC
CVI	12	28	32	VDC
CVI no out-put activated	95@24VDC			mA
Motor Current	0	9	9	A RMS
Input Logic Low	-0.5	0.9		VDC
Input Logic High	1.9	28	32	VDC
Output Logic High	12	28	32	VDC
Analogue Input	0	5	32	VDC
Output Current			350*	mA

*8 Outputs: Totally max. 800 mA. for all 8 outputs active

5

Versions with positioning and speed control:

QUICKSTEP M12 connector overview	Power Male 5pin	IO1-2,IO5-8/RS485 Female 12pin	RS485 Female 8pin	CANOpen Female 5pin	SSI Encoder Male 8pin	Profibus Female 5 pin	Profibus Male 5 pin	Ethernet Female 4pin
MIS34xByyQ6zz85 (Can)	X	X	X	X				
MIS34xByyQ9zz85 (SSI)	X	X	X		X			
MIS34xByyEEzz85 (Ethernet)	X	X	X					X
MIS34xByyFBzz85 (Bluetooth)	X	X	X					
MIS34xByyFPzz85 (Profibus)	X	X				X	X	
M12 Pin 1	P+ (12-80VDC)	A1+ (RS422)	Reserved	CAN_SHLD	IO5 Zero Setting	5VDC	Reserved	TXO_P
M12 Pin 2	P+ (12-48VDC)	GND	A1+	Unused	IO6 Counting Direction	A-	A-	RXO_P
M12 Pin 3	P- (GND)	A1- (RS422)	B1+	CAN_GND	A+ (Clock+)	DGND	DGND	TXO_N
M12 Pin 4	CVI (12-28VDC)	B1+ (RS422)	GND	CAN_H	GND	B+	B+	RXO_N
M12 Pin 5	P- (GND)	IO1	B0+ (RS485)	CAN_L	B- (Data in-)	SHIELD	Shield	-
M12 Pin 6	-	B1- (RS422)	AO- (RS485)	-	B+ (Data in+)	-	-	-
M12 Pin 7	-	IO2	A1-	-	A- (Clock-)	-	-	-
M12 Pin 8	-	IO5	B1-	-	CVO +(out)	-	-	-
M12 Pin 9	-	CVO	-	-	-	-	-	-
M12 Pin 10	-	IO6	-	-	-	-	-	-
M12 Pin 11	-	IO7	-	-	-	-	-	-
M12 Pin 12	-	IO8	-	-	-	-	-	-
M12 connector solder terminals	WI1008-M12F5SS1	WI1008-M12M12SS1	WI1008-M12M8SS1	WI1008-M12M5SS1	WI1008-M12F8SSI	-	WI1028-M12F5SS1	
M12 cables 5m.	WI1000-M12F5T05N	WI1000-M12M12T05N	WI1000-M12M8T05N	WI1006-12M5S05R	WI1000-M12F8T05N	WI1026-M12F5S05R	WI1026-M12F5S05R	WI1046-M12M4S05R

x=0~3Nm, x=1~6Nm, x=2~9Nm. zz=12~9.53 mm shaft, zz=14~14.0 mm shaft yy:=NO^ No encoder, H2~built in magnetic encoder

MIS34xByyQ6zz85
RS485 and canOPEN.
In network up to
32 MAC and Quickstep
motor. 6 IO

MIS34xByyQ9zz85
RS485 serial communication
network and SSI encoder
6IO

MIS34xByyEEzz85
RS485 serial communication
and EtherNet.
6 IO.

MIS34xByyFBzz85
RS485 serial communication in
network. Wireless Bluetooth.
6 IO.

MIS34xByyFPzz85
RS485 serial communication in
network. Profibus
6 IO.

All connectors: Front view   TT2299GB

PWR: 5 pin male **RS485:** 8 pin female **CAN:** 5 pin male **I/O1-6:** 12 pin female
EtherNet: 4pin female **Profibus:** 5 pin male and female B-coded
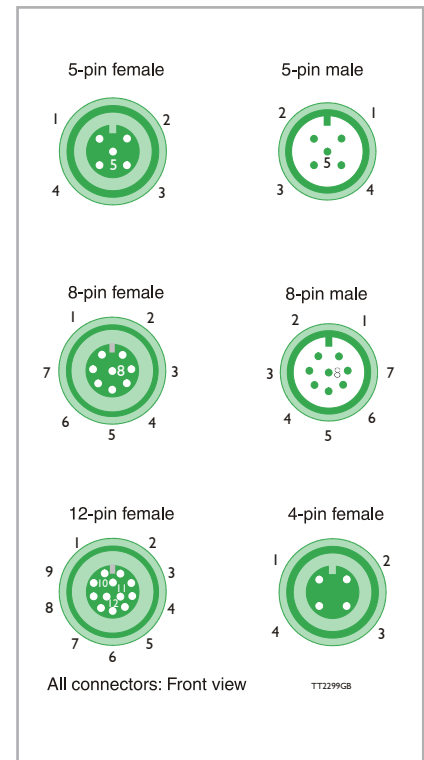
5-pole cable connector

Pin no.	Color
1	Brown
2	White
3	Blue
4	Black
5	Grey

8-pole cable connector

Pin no.	Color
1	White
2	Brown
3	Green
4	Yellow
5	Grey
6	Pink
7	Blue
8	Red

12-pole cable connector

Pin no.	Color
1	Brown
2	Blue
3	White
4	Green
5	Pink
6	Yellow
7	Black
8	Grey
9	Red
10	Violet
11	Grey/pink
12	Red/blue

Ordering Information

Motor type	Size	Generation	IP and shaft	Connection	Feedback	Driver Technology	Coating	Step Resolution	mA in driver	Input format	Standby current ratio
MIS	340	B	14	Q6	N0	85					

Standby current ratio
01   to
31   Standby current ratio(03 = 1/3 standby current) #

Input format
D   24V NPN inputs
E   24V PNP inputs
F   5V inputs

mA in driver
xx   xx specify mA*100/phase. See SMD73 datasheet

Step Resolution
\#   No driver #
1   1/1 step (with 200 steps/rev. motor 200 pulses/rev.)
2   1/2 step (with 200 steps/rev. motor 400 pulses/rev.)
4   1/4 step (with 200 steps/rev. motor 800 pulses/rev.)
5   1/5 step (with 200 steps/rev. motor 1000 pulses/rev.)
8   1/8 step (with 200 steps/rev. motor 1600 pulses/rev.)

Coating
-    Normal. No coating. Standard#
KIT   Kit for MIS23xxM5 with all cables and PAo160 test IO boks
M   Coating of PCB

Driver Technology
73   SM73 driver 15-28VDC. Pulse and direction driver. (only orders more than 10pcs. See note1)
74   SMD74 Driver 12-48VDC based on SMC75 technology.
75   SMC75 controller with MAC protokol. 12-48VDC and optional encoder#
85   SMC85 controller with 12-80VDC and new high resolution driver
41   SMD41 driver technology, 20-80VDC. Pulse and direction driver. Only MIS34x (Future option).
42   SMD42 driver technology, 30-160VDC. Pulse and direction driver. Only MIS34x (Future option).

Feedback
N0   No feedback
H2   Magnetic encoder feedback. 256x4 pulses/rec. Only if controller supports this feature.
E1   Encoder feedback. 1024 lines = 4096 pulses/rev. Only if controller support this feature. (Future option)
H3   Absolut multiturn encoder magnetic feedback. Only if controller supports this feature. (Future option)

Connection
M1   M12 1pcs. 5pin male . SMD73 pulse/direction driver.
M2   M12 2 pcs. 5 pin male (power). 8 pin female (RS485, 4IOA). SMC75
M3   M12 3 pcs. 5 pin male (power), 8 pin female (RS485, IOA 1-4), 5 pin female (RS485). SMC75
M4   M12 3 pcs. 5 pin male (power), 8 pin female (RS485, IOA 1-4), 8 pin female (5V seriel, IOA5-8). SMC75
M5   M12 4 pcs. 5 pin male (power), 8 pin female (RS485, IOA 1-4), 5 pin female (RS485), 8 pin female (5V serial, IOA 5-8). SMC75
M6   M12 4 pcs. CANopen:5 pin male (power), 8 pin female (RS485, IOA 1-4), 8 pin female (5V serial, IOA 5-8), 5 pin male (CANopen). SMC75
M7   M12 4 pcs. DeviceNet:5 pin male (power), 8 pin female (RS485, IOA 1-4), 8 pin female (5V serial, IOA 5-8), 5 pin male (DeviceNet). SMC75
M8   M12 4 pcs. SSI+CANopen:5 pin male (power), 8 pin female (RS485, IOA 1-4), 8 pin male (IOA 5-8), 5 pin male (CANopen). SMC75
M9   M12 4 pcs. SSI:5 pin male (power), 8 pin female (RS485, IOA 1-4), 8 pin male SSI (IOA 5-8), 5 pin female RS485. SMC75
MA   M12 3 pcs. 5 pin male (power), 8 pin female (RS485, IOA 1-4), 5 pin male (CAN). SMC75
MB   M12 4 pcs. 5 pin male (power), 8 pin female (RS485, IOA 1-4), 5 pin male (CAN), 5 pin female (CAN). SMC75
MC   M12 3 pcs. 3m power cable PG12, 8 pin female (RS485, IOA 1-4), 5 pin male (CAN). SMC75
MD   M12 3 pcs. 3m power cable PG12, 8 pin female (RS485, IOA 1-4), 5 pin male (CAN) 5 pin female (CAN). SMC75
R1   Radial connection. M12 2 pcs. 5 pin male (power). 8 pin female (RS485, 410A) on 2 sides. High volumen SMC75
R2   Radial connection. M12 2 pcs. 5 pin male (power). 8 pin female (RS485, 410A) on 2 sides. 1-50 pcs SMC75
C1   2 pcs PG12 cable Clands M12x1.5 and no cable mounted (side mounted only MIS231)
C2   2 pcs PG12 cable Clands M!"x1.5 and 5m power and IO cable with shield mounted (side mounted)
C3   2 pcs PG12 cable Clands M!"x1.5 and 1m power and IO cable with shield mounted (side mounted)
C6   CANOPEN + 2 pcs PG12 cable clands M12x1,5 and 2m power and IO cable with shield mounted (Side Mounted)
W0   2 pcs PG12 cable Clands M12x1,5 and no cable mounted (rear end mounted)
W1   2 pcs PG12 cable clands M12x1,5 and 1 m power and 1m IO cable with shield mounted (Rear end mounted)
W2   2 pcs PG12 cable clands M12x1,5 and 5m power and 1m IO cable with shield mounted (Rear end mounted)
Q6   MIS34x 4 pcs M12 5 pin male(power), 5pin female (RS485), 12 female (IO), 5 pin male (CANopen)
EC   MIS34x 4 pcs M12 5 pin male(power), 5pin female (RS485), 12 female (IO), 8 pin male (SSI + IO5-6)
EE   MIS34x 4 pcs M12 5 pin male(power), 5pin female (RS485), 12 female (IO), 5 pin male Ethernet Ethercat
EI   MIS34x 4 pcs M12 5 pin male(power), 5pin female (RS485), 12 female (IO), 5 pin male Ethernet ProfiNet
EP   MIS34x 4 pcs M12 5 pin male(power), 5pin female (RS485), 12 female (IO), 5 pin male Ethernet PowerLink
FB   MIS34x 4 pcs M12 5 pin male(power), 5pin female (RS485), 12 female (IQ), Antenna Wireless Bluetooth
EW   MIS34x 4 pcs M12 5 pin male(power), 5pin female (RS485), 12 female (IO), Antenna Wireless LAN

IP and shaft
1   6,35mm shaft and IP42. Round Shaft
2   6,35mm shaft and IP65 (motor shaft and body) IP66 (Rear end and connector) and special painting
3   10,0 mm shaft and IP42
4   10,0mm shaft and IP65 (motor shaft and body) IP66 (Rear end and connector) and special painting
5   14mm shaft and IP42
6   14mm shaft and IP65 (motor shaft and body) IP66 (Rear end and connector) and special painting
7   8mm shaft 52 mm long for HFOS worm gear. IP42
8   6.35mm shaft with D-cut and IP42
9   5.00mm shaft with D-cut and IP42
10   7.00mm shaft 45.5 mm long for Dunker flange and IP42
11   6.35mm shaft. Black painted and rubber sealing in rear end IP65. Shaft end IP42
12   9,53 mm shaft D shape. Black painted. Shaft end IP42. Only MIS34x
13   9,53 mm shaft D shape. Black painted. Shaft end IP42. Rear end shaft ø10mm 30mm long D shape. Only MIS34x
14   14mm with 5x5 key shaft. Black painted. Shaft end IP42. Only MIS34x
15   14mm with 5x5 key shaft. Black painted. Shaft end IP42. Rear end shaft ø10mm 30mm long D shape. Only MIS34x
16   14mm round shaft IP42
17   9,53mm shaft Dshape. Black painted. Shaft and rear end IP65. Only MIS34x
18   9,53mm shaft D shape. Black painted. Shaft and rear end IP65. Rear end shaft ø10mm 30mm long D shape. Only MIS34x
19   14mm with 5x5 key shaft. Black painted. Shaft and rear end IP65. Only MIS34x
20   14mm with 5x5 key shaft. Black painted. Shaft and rear end IP65. Rear end shaft ø10mm 30mm long D shape. Only MIS34x

Generation
A   Driver 3,0A/phase, Motor 3Amp and 200step/rev
B   Driver 6,0A/phase, Motor 6Amp and 200step/rev
C   Driver 9,0A/phase, Motor 9Amp and 200step/rev
D   Driver 12,0A/phase, Motor 12Amp and 200step/rev
F   Driver 3,0A/phase, Motor 3Amp and 400step/rev
G   Driver 6,0A/phase, Motor 6Amp and 400step/rev
H   Driver 9,0A/phase, Motor 9Amp and 400step/rev
I   Driver 12,0A/phase, Motor 12Amp and 400step/rev
K   Driver 4,6A/phase, Motor 6Amp and 200step/rev (only MIS23x)

Size
230   NEMA23 step motor
231   NEMA23 step motor
232   NEMA23 step motor
234   NEMA23 step motor
340   NEMA34 step motor (Future option)
341   NEMA34 step motor (Future option)
342   NEMA34 step motor (Future option)

Motor type
MIS   MISxxx Motor Integrated Stepper motor.

Mechanical dimensions

MIS342

2 [0.08]
35.1 [1.38]
25 [0.98]
MIS340 and 341
30.5 [1.2]
TT2295GB

Optional
Ø10.0 [0.4]
100.0 [3.94]
9.0 [0.35]
30 [1.18]
46.5 [1.83]
L

Ø99.1 [Ø3.90]
86 [3.39]
56.7 [2.23]
Ø D
Ø73 [Ø2.87]
69.57 [2.74]
86 [3.39]
4xØ5.4 [Ø0.21]
69.57 [2.74]

Motor Type	d (dia.)	Shaft dia.	Length +/-2mm L
MIS340	9.0 [0.35]	9.53 [0.35]	95.0 [3.74]
MIS341	9.0 [0.35]	9.53 [0.37]	126.0 [4.96]
MIS342	13.0 [0.51]	14.0 [0.55]	156.0 [6.14]

Planetary and cycloidal gearheads

- Sealed Ball Bearings
- High Reliability, High Efficiency Design
- NEMA Mounting Standards
- High Shaft Loading Capacity
- Low Backlash Design
- Strong, Caged Roller Bearings
- Precision Input Pinion with Balanced Clamp Collar

Model.	Back-lash [arc min]	Gear ratio	Effi-ciency [%]	Rated torque >10000 Hours [Nm]	Emerg stop Torque [Nm]	Inertia at motor shaft [kg*cm²]	Noise [dB(A)]	Radial load @12mm [N]	Axial load [N]	Weight [kg]	L1 [mm]	D1 [mm]	D2 [mm] (h7)
MIS340 and MIS341:													
HTRG08N003MHN34109J	<15	3	97	40	180	0.50	<70	1300	1400	4.0	117.5	85	19
HTRG08N005MHN34109J	<15	5	97	50	200	0.28	<70	1300	1400	4.0	117.5	85	19
HTRG08N010MHN34109J	<15	10	94	40	180	0.20	<70	1300	1400	4.6	142.0	85	19
HTRG08N020MHN34109J	<15	20	94	70	250	0.27	<70	1300	1400	4.6	142.0	85	19
MIS342:													
HTRG08N003MHN34114M	<15	3	97	40	180	0.59	<70	1300	1400	4.0	117.5	85	19
HTRG08N005MHN34114M	<15	5	97	50	200	0.37	<70	1300	1400	4.0	117.5	85	19
HTRG08N010MHN34114M	<15	10	94	40	180	0.29	<70	1300	1400	4.6	142.0	85	19
HTRG08N012MHN34114M	<15	12	94	70	250	0.56	<70	1300	1400	4.6	142.0	85	19

HTRG type gears:

46.0
L1
34
5
2.0
30
85
2.5
69.7
D1
Ø 50⁷
D2
NEMA 34 flange
r=32.5
12
TT2298GB
4xM6 holes
14
4xM5

Get started quickly!

Starter Kit (MIS340B1ZQ6H285KIT): Contains all necessary parts to get started

The kit consists of:
Motor, Power Supply, Software, Cables etc.
PA0160 - Test box with (I/O and encoder emulation.
WI0036 - Cable between test box and Quick-Step motor.
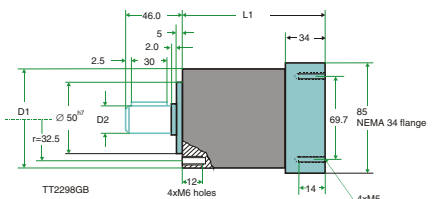**MIS340B12Q6H285KIT –** Integrated step motor.
RS485-M12-1-5-5 – cable between QuickStep motor and USB converter.
RS485-USB-ATC-820 – USB to RS485 adaptor.
PSU024-060-M12 - 24 VDC Power supply. 60W.
MacTalk – Windows software for setup and programming.