

INDEX

MOTION CONTROLLERS

A-series PLC SYSTEM

CPU

AH16S0P (4 Axes)	PAG. 4
AT16S0P (2 Axes)	PAG. 4

MODULES

A16XDP (8 Digital IN/OUT)	PAG. 4
A04XA (2 Analog IN/OUT)	PAG. 4
A04TC (Thermocouple)	PAG. 4

HMI

C7H	PAG. 6
C10S	PAG. 6

ETHERNET SWITCH

IES 150 B	PAG. 7
-----------	--------

SAFETY PLC

R1.190.1310.0	PAG. 8
---------------	--------

STEPPING MOTOR DRIVES

CSD MT 94 + UL	PAG. 12
CSD ET 04 + UL	PAG. 14
CSD ET 94 + UL	PAG. 16
A-CSD + UL	PAG. 18
A-NDC + UL	PAG. 20
ADW + UL	PAG. 22
R-MOD ET A3H2MK	PAG. 24
HI-MOD ETS A4F2HK	PAG. 26
HI-MOD ET A5F2HK	PAG. 26

ACCESSORIES

R-UHP 1000-48	PAG. 30
---------------	---------

STEPPING MOTORS

Nema 17

RH 1S1H (-RS)	PAG. 34
RH 1S2H (-RS)	PAG. 35
RH 1S3H (-RS)	PAG. 36
RH 1S1H-OXX0	PAG. 37
RH 1S2H-OXX0	PAG. 38
RH 1S3H-OXX0	PAG. 39

Nema 23

RH 2S1M (-RS)	PAG. 40
RH 2S2M (-RS)	PAG. 41
RH 2S1M-OXX0	PAG. 42
RH 2S2M-OXX0	PAG. 43

ACCESSORIES

Front brakes

FB-M12-17-02-00000	PAG. 46
FB-M12-23-08-00000	PAG. 47

SERVO SYSTEMS

SERVOMOTORS

R2AA13200LXR00M	PAG. 50
R2AA13200LCR00M	PAG. 50

COOLING FANS

9G1224H102	PAG. 52
------------	---------



MOTION CONTROLLERS



A-Series PLC SYSTEM CPU - Modules - HMI

INTRODUCTION

A-series integrated PLC system, including CPU, modules and touch screens, is a versatile and programmable logic controller, expandable with external modules.

It is typically suitable for simple stepper position applications, thanks to easy and flexible parameters setting.

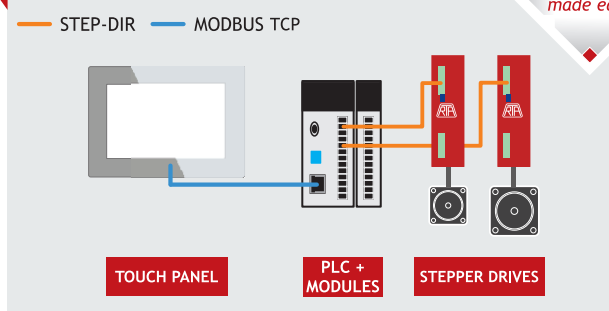
It perfectly integrates with R.T.A. selected products and technologies, forming an easy-to-use control system.

TOUCH SCREENS



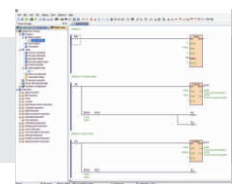
- Easy integration with the PLC System
- Compact size
- Quick installation

R.T.A. PLC SYSTEM



LADDER LOGIC

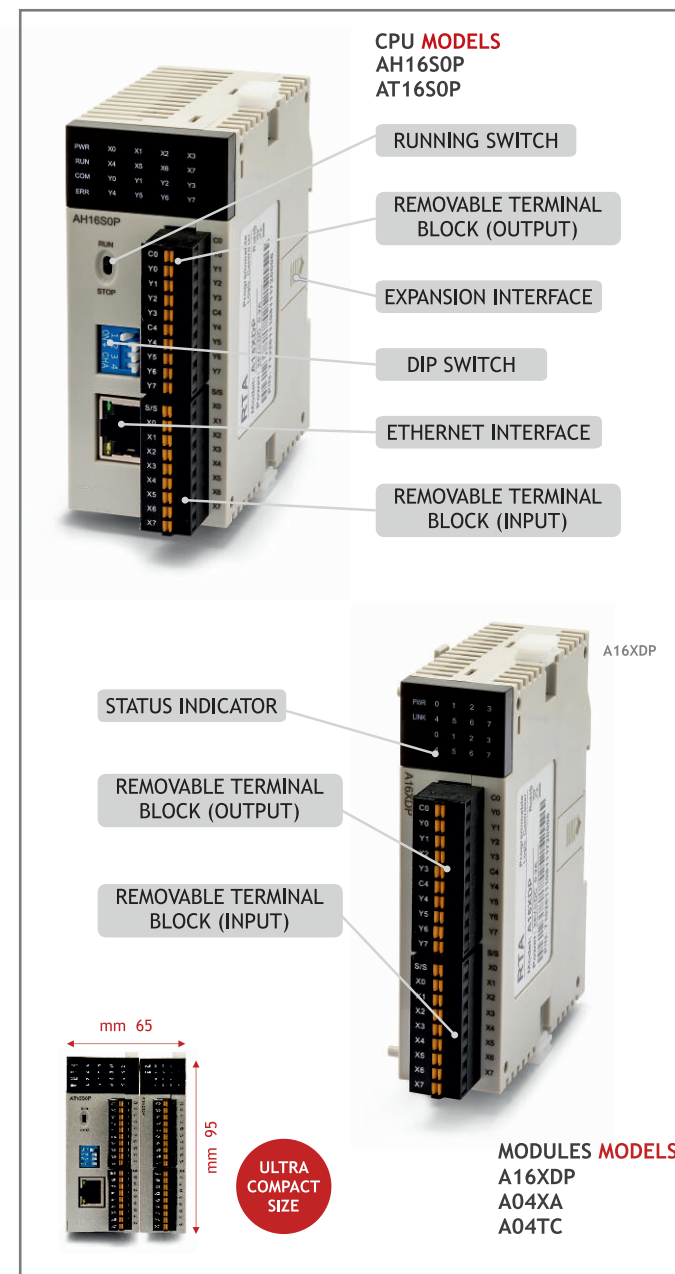
Programming System



MAIN FEATURES

CPU MAIN FEATURES		
	AH16S0P	AT16S0P
PULSE/TRAIN AXES	4	2
MOVEMENT	Single and multi-axes	Single axes movement
ETHERNET	yes	yes
EXPANDABLE	15 modules	15 modules
INPUT/OUTPUT	8 Digital Input / 8 Digital Output	

MODULES MAIN FEATURES			
	A16XDP	A04XA	A04TC
DIGITAL INPUT	8	0	0
DIGITAL OUTPUT	8	0	0
ANALOG INPUT		2	0
ANALOG OUTPUT		2	0
THERMOCOUPLE			4



TECHNICAL SPECIFICATIONS

PLC SPECIFICATIONS	AH16S0P	T16S0P
POWER SUPPLY	24 VDC ±15%	
POWER PROTECTION	DC input power polarity reverse, over voltage protection	
STEP/DIR OUTPUT	4 (200KHz, 24V PNP)	2 (200KHz, 24V PNP)
AB ENCODER INPUT	4 (200KHz, 24V PNP)	2 (200KHz, 24V PNP)

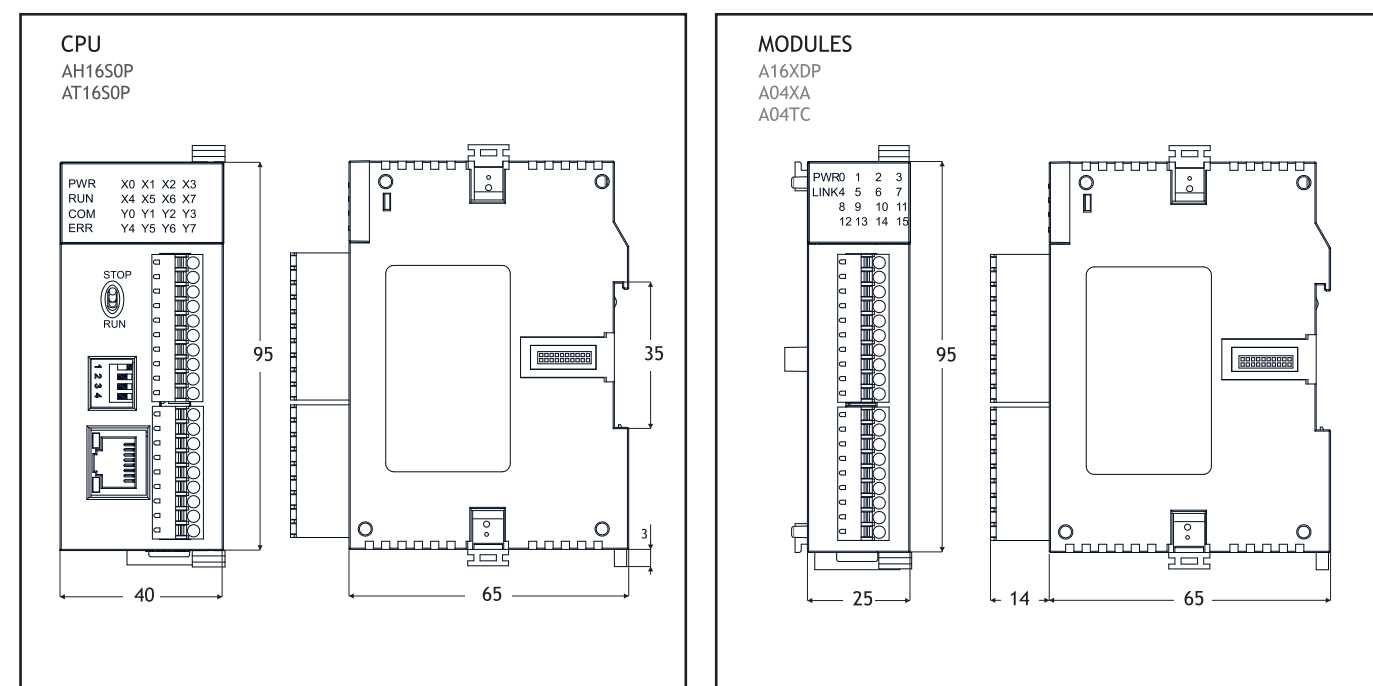
DIGITAL INPUT SPECIFICATIONS	
INPUT SIGNAL	24 VDC PNP
INPUT IMPEDANCE	4.3KΩ
MAX INPUT CURRENT	10 mA
INSULATION TYPE	Optoelectronic isolation for each channel

DIGITAL OUTPUT SPECIFICATIONS	
MAX LOAD	0,5A/1 point, 2A/4 points COM, 24VDC PNP
REACTION TIME	Off->On 10 ms, On->Off 5 ms
INSULATION TYPE	Optoelectronic isolation for each channel

ANALOG INPUT / OUTPUT SPECIFICATIONS					
	VOLTAGE INPUT/OUTPUT			CURRENT INPUT/OUTPUT	
INPUT/OUTPUT RANGE	0V - +10V	0V - +5V	1V - +5V	0 - 20 mA	4 - 20 mA
RESOLUTION	2.5 mV	1.25 mV	1.25 mV	5μA	
DIGITAL INPUT/OUTPUT RANGE	12 bits, Code range: 0- 32000				

THERMOCOUPLE MODULE SPECIFICATIONS	
INPUT RANGE	IS, K, E, B, N, R, Wre/25, Wre5/26, [0, 20]mV, [0, 50]mV, [0, 100]mV
RESOLUTION	0.1 °C
MAX INPUT RANGE	±30mA
RESPONSE TIME	560ms/4 Channel
DIGITAL OUTPUT RANGE	12 bits, Code range: 0 ~ 32000

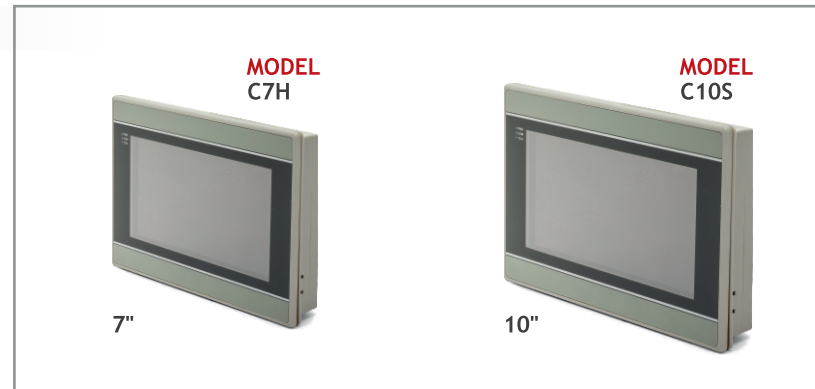
MECHANICAL DIMENSIONS (mm)



HMI Touch Screen C7H - C10S

MAIN FEATURES

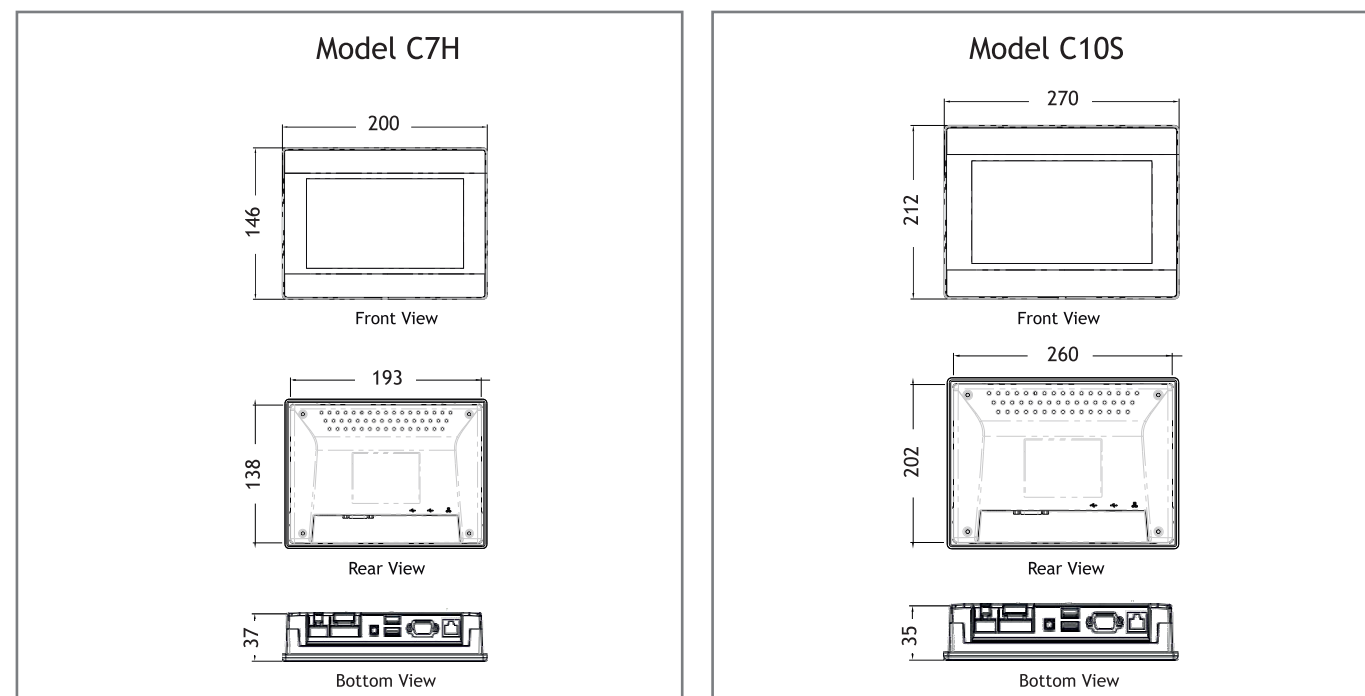
- 2 serial ports, 2 USB ports, SD card
- Compact size for easy installation
- Easy integration with A-series PLC
- R.T.A. support team



TECHNICAL SPECIFICATIONS

MODEL	C7H	C10S	
DISPLAY	DISPLAY	7"	10.1"
	RESOLUTION	1024x600 pixels	1024x600 pixels
MEMORY	FLASH	4 Gb	
	RAM	512 Mb	
DIMENSIONS	DIMENSION	200x146x37 mm	270x212x35 mm
	WEIGHT	0.8 Kg	1.3 Kg
POWER	POWER CONSUMPTION	24±20% VDC	
	INPUT POWER	7 W	10 W

MECHANICAL DIMENSIONS (mm)



Ethernet switch IES-150B

INTRODUCTION

IES-150B is an unmanaged Ethernet switch with 5x10/100Base-T(X) ports. With its very compact size, it is easy to install and the rigid IP30 housing make it suitable for diverse environments.

MAIN FEATURES

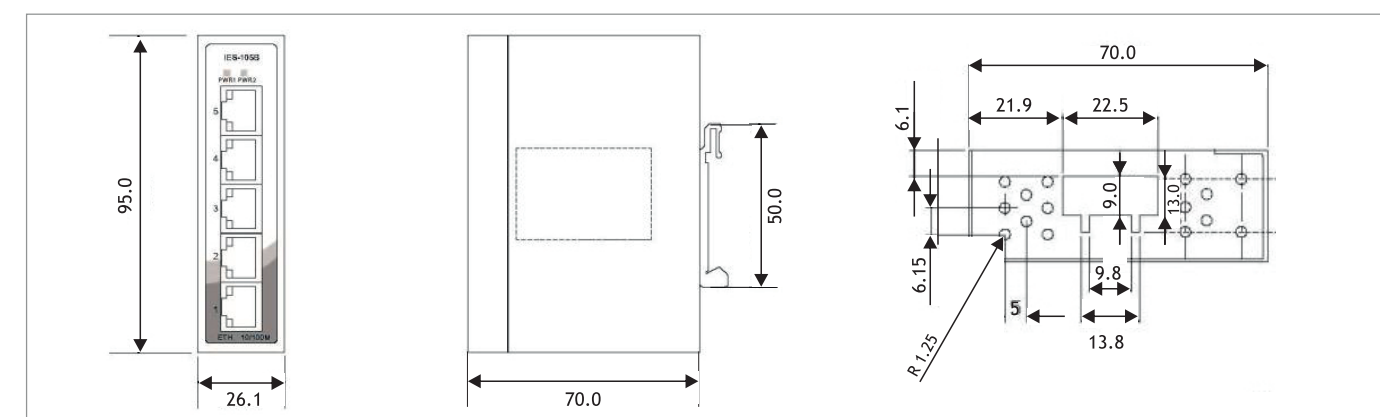
- 5 ports 10/100base-T(X)
- Auto-negotiation and auto-MDI/MDI-X
- Store-and-Forward transmission
- Flow control
- Operating temperature from -40°C to 75°C
- Compact size for easy installation
- DIN-rail and wall mounting



TECHNICAL SPECIFICATIONS

PHISICAL PORTS	
10/100BASE-T(X) PORTS IN RJ45 AUTO MDI/MDIX	5
INPUT POWER	Dual 12-48 VDC and 24VAC on 4-pin terminal block
POWER CONSUMPTION	<3 W, 12-48 VDC: 0.10 A-0.04A, 24 VAC: 0.10A
OVERLOAD CURRENT PROTECTION	Present
REVERSE POLARITY PROTECTION	Present

MECHANICAL DIMENSIONS (mm)



SAFETY PLC *Wieland R1.190.1310.0*

INTRODUCTION

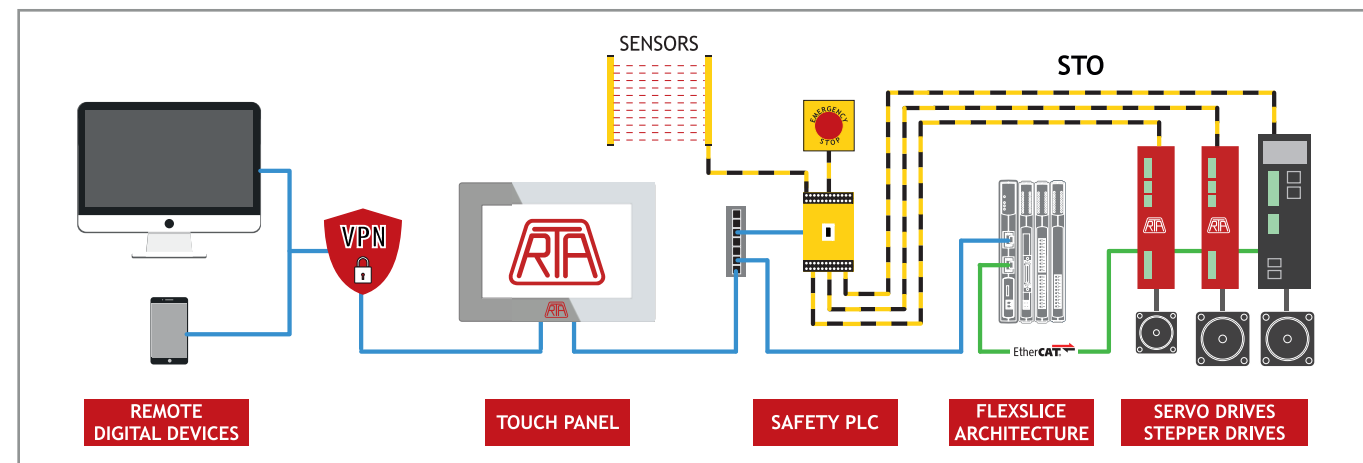
The samosPRO Compact module is suitable for monitoring safety sensors, emergency STOP buttons, safety door switches and door locks, safety light curtains and laser scanners.

HIGHLIGHTS

- 16 safe input, 4 safe output
- 4 configurable I/Os
- Mini-USB and Ethernet ports
- Modbus TCP/IP communication
- Easy integration in the R.T.A. system



R.T.A. SAFETY PLC SYSTEM



MAIN FEATURES

GENERAL FEATURES	
TYPE OF PROTECTION (ACCORDING TO DIN 60529)	IP20
NORMATIVE	EN 62508, EN 62061, EN ISO 13849-1, EN 50156, EN 81-1
CERTIFICATIONS	TUV, UL
SAFETY PARAMETERS	
CATEGORY (ISO 13849-1)	4
PL (ISO 13849-1)	Level e
SIL _{CL} (IEC 62061)	3
HFT	1
T _M	20 a

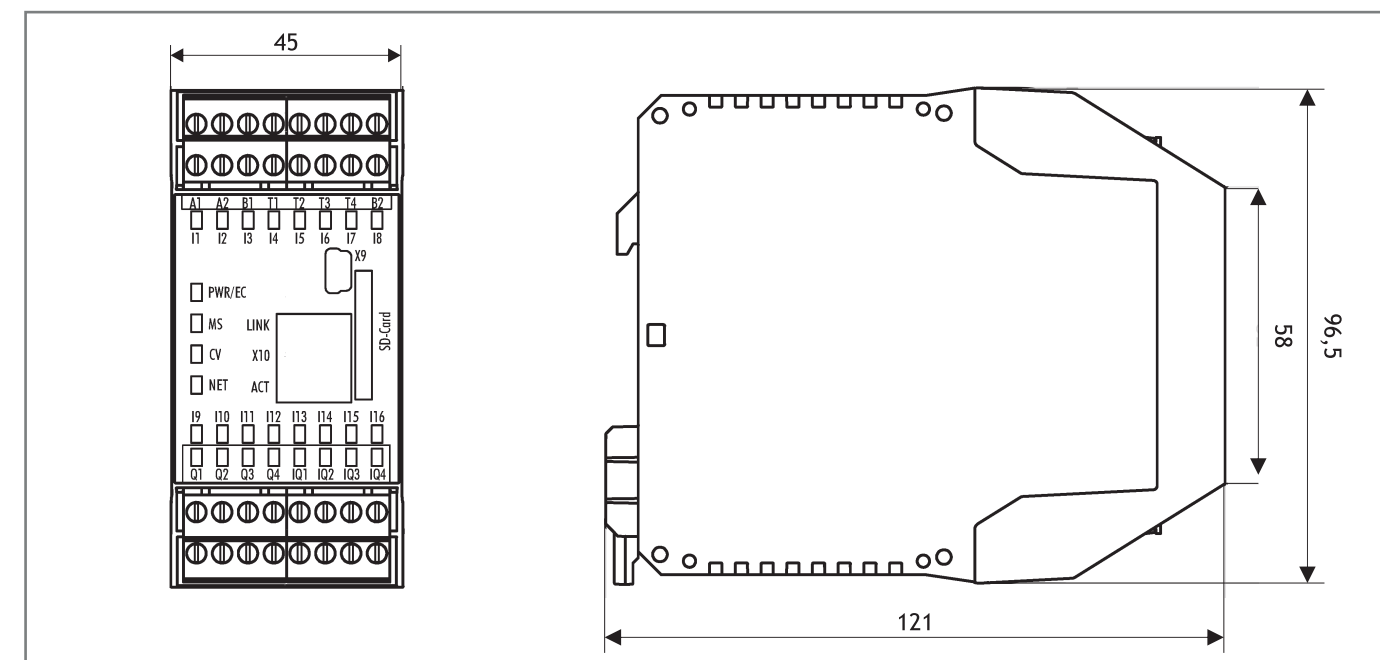
TECHNICAL SPECIFICATIONS

POWER CIRCUIT	
OPERATING VOLTAGE RANGE	24 VDC -30%/+25%
NOMINAL POWER	3,5 W (Logic absorption)
INPUT CIRCUIT	
DIGITAL INPUTS	16 + 4 Configurable
INPUT VOLTAGE RANGE	15 VDC up to 30 VDC
NOMINAL CURRENT	2 mA
OUTPUT CIRCUIT	
DIGITAL OUTPUTS	4 + 4 Configurable
OUTPUT VOLTAGE RANGE	24 VDC
OUTPUT CURRENT I _p PER OUTPUT	4 A (I _{sum} 16 A)
INTERFACE CIRCUIT	
ETHERNET INDUSTRIAL PROTOCOLS	Modbus TCP/IP
PROGRAM MEMORY	External (Mandatory pairing with SD WIELAND R1.190.1000.00)

SAFETY FUNCTIONS

- ✓ Contactless operating selection function
- ✓ Control function of external contactors
- ✓ Contemporaneity button function
- ✓ Operation mode selection function
- ✓ Block restart function
- ✓ Bimanual function
- ✓ Safety function
- ✓ Access control function
- ✓ ON/OFF Delay timer

MECHANICAL DIMENSIONS (mm)





STEPPING MOTOR DRIVES



CSD MT 94 Series Drives



INTRODUCTION

- New series of stepping motor drives with Modbus interface, now available with a 3rd generation firmware release (2021).
- Drives optimized for coupling with SANYO DENKI stepping motors, fitted with encoder, but also able to manage third party motors.
- Compact system, developed to offer a wide variety of integrated functions and optimized for the most demanding motion control applications.

MAIN FEATURES

- Modes of operation: PP, PV, Homing.
- Wide range of motor phase current setting and motor current overboost (120%).
- Different variety of HOMING operation modes.
- Encoder feedback and support of different resolution.
- Touch Probe function available.
- Limit switches management.
- Auto-sync function available featuring a closed loop positioning.
- 5 + 5 I/Os.
- UL recognized.



Please refer to download.rta.it for technical specifications

Series	Model	V _{dc} range (Volt)	I nom. (Amp)	Digital In/Out	Dimensions (mm)
CSD MT	94	24 to 48	4.0	5/5	130x106x32

TECHNICAL FEATURES

- Range of operating voltage 24-48 VDC.
- Protections:
 - Protection against under-voltage and over-voltage.
 - Protection against a short-circuit at motor outputs.
 - Overtemperature protection.
- Electronic damping facility for further acoustic noise and mechanic vibrations reduction.
- Maximum compactness.
- Optoinsulated auxiliary and programmable inputs and outputs.
- UL recognized.
- Warranty: 24 months.

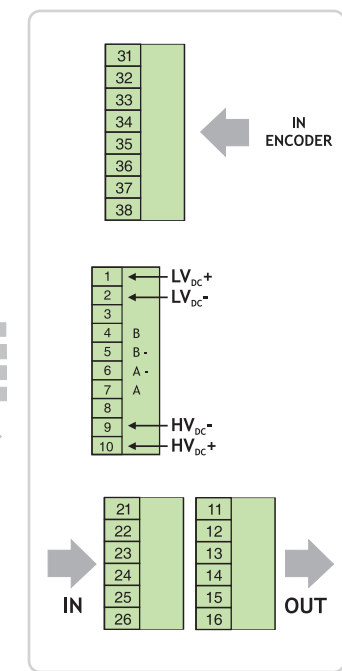


SCAN THE QR CODE TO WATCH A VIDEO ON THE AUTO-SYNC FUNCTION

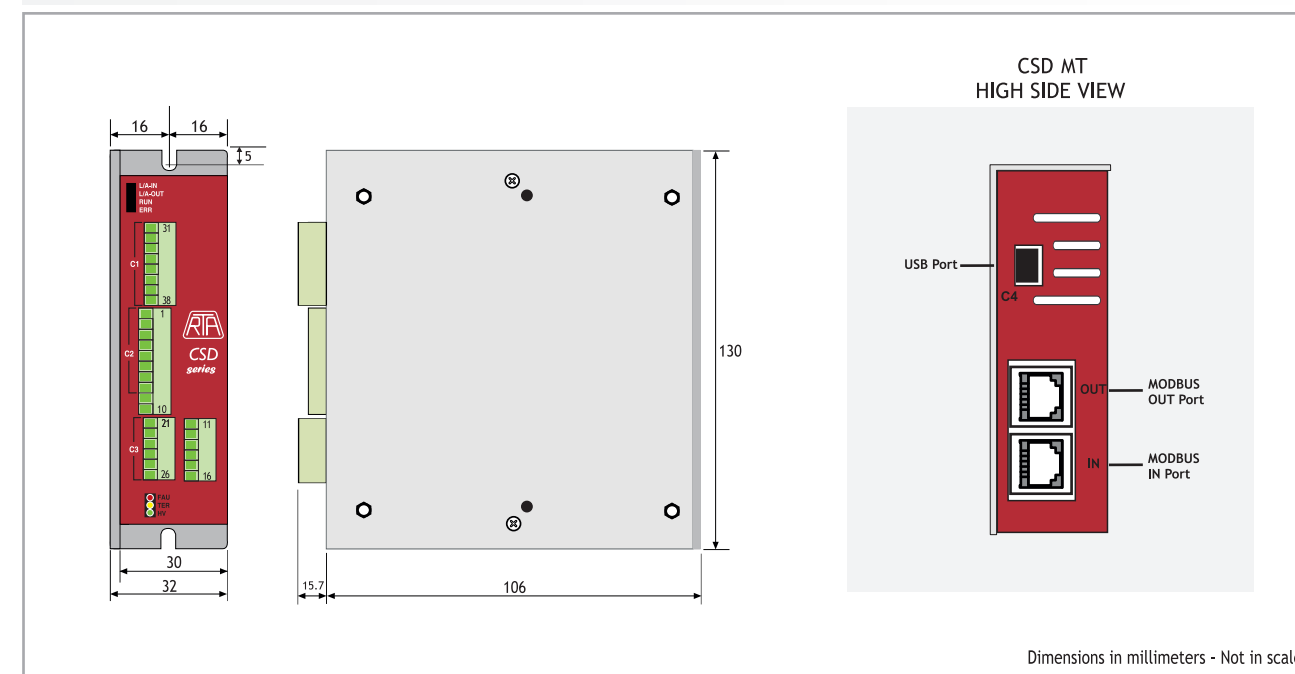


POWER AND LOGIC CONNECTIONS

R.T.A. MOTORS
RH/EM SERIES



MECHANICAL DIMENSIONS



CSD ET Series Drives

EtherCAT®

3rd
FIRMWARE
GENERATION

INTRODUCTION

- New series of stepping motor drives with EtherCAT interface, now available with a 3rd generation firmware release (2021).
- Drives optimized for coupling with SANYO DENKI stepping motors, fitted with encoder, but also able to manage third party motors.
- Compact system, developed to offer a wide variety of integrated functions and optimized for the most demanding motion control applications.

MAIN EtherCAT® FEATURES

- Modes of operation: PP, PV, Homing, CSP and CSV.
- Wide range of motor phase current setting and motor current overboost.
- Different variety of HOMING operation modes.
- Encoder feedback and support of different resolution.
- Touch Probe function available.
- Limit switches management.
- Auto-sync function available featuring a closed loop positioning.
- 5 + 5 I/Os.
- UL recognized.

Please refer to download.rta.it for technical specifications

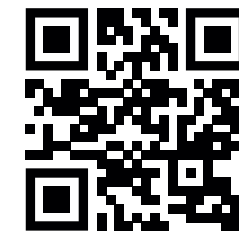
Series	Model	V _{dc} range (Volt)	I nom. (Amp)	Digital In/Out	Dimensions (mm)
CSD ET	04	24 to 48	4.0	5/5	130x106x32



TECHNICAL FEATURES

- Range of operating voltage 24-48 VDC.
- Protections:
 - Protection against under-voltage and over-voltage.
 - Protection against a short-circuit at motor outputs.
 - Overtemperature protection.
- Electronic damping facility for further acoustic noise and mechanic vibrations reduction.
- Available in plastic boxed version with plug-in connectors.
- Maximum compactness.
- Optoinsulated auxiliary and programmable inputs and outputs.
- UL recognized.
- Warranty: 24 months.

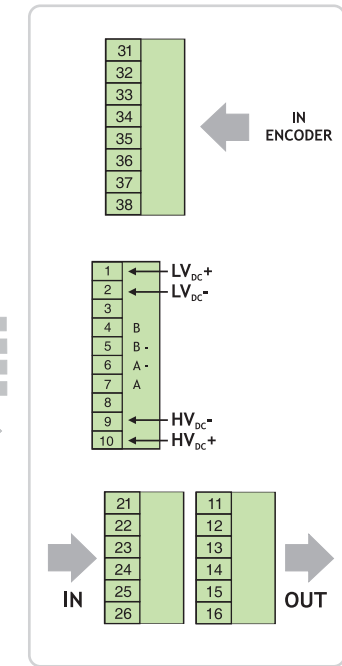
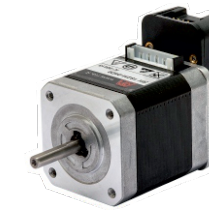
EtherCAT®



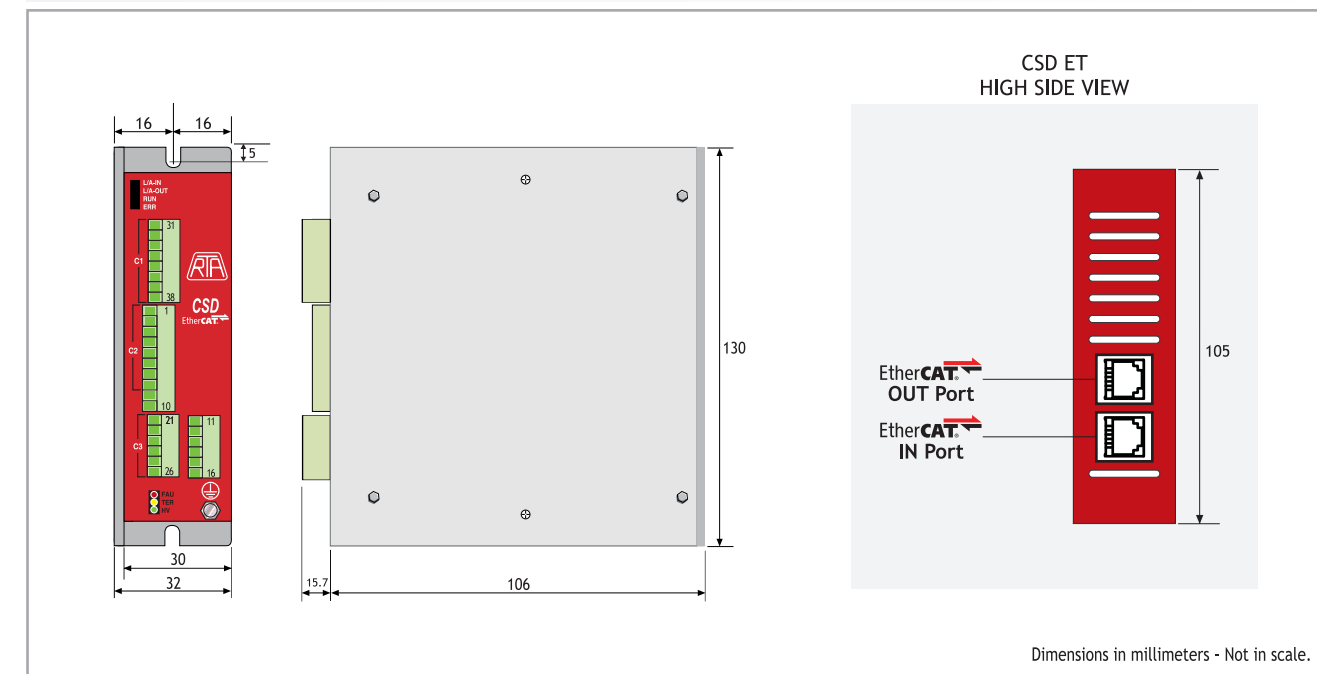
SCAN THE QR CODE TO WATCH A VIDEO ON AUTO-SYNC FUNCTION

POWER AND LOGIC CONNECTIONS

R.T.A. MOTORS
RH/EM SERIES



MECHANICAL DIMENSIONS



CSD ET 94 Series Drives

EtherCAT®

3rd
FIRMWARE
GENERATION

INTRODUCTION

- New series of stepping motor drives with EtherCAT interface, now available with a 3rd generation firmware release (2021).
- Drives optimized for coupling with SANYO DENKI stepping motors, fitted with encoder, but also able to manage third party motors.
- Compact system, developed to offer a wide variety of integrated functions and optimized for the most demanding motion control applications.

MAIN EtherCAT® FEATURES

- Modes of operation: PP, PV, Homing, CSP and CSV.
- Wide range of motor phase current setting and motor current overboost (120%).
- Different variety of HOMING operation modes.
- Encoder feedback and support of different resolution.
- Touch Probe function available.
- Limit switches management.
- Auto-sync function available featuring a closed loop positioning.
- 5 + 5 I/Os.
- UL recognized.

Please refer to download.rta.it for technical specifications

Series	Model	V _{dc} range (Volt)	I nom. (Amp)	Digital In/Out	Dimensions (mm)
CSD ET	94	24 to 48	4.0	5/5	130x106x32



TECHNICAL FEATURES

- Range of operating voltage 24-48 VDC.
- Protections:
 - Protection against under-voltage and over-voltage.
 - Protection against a short-circuit at motor outputs.
 - Overtemperature protection.
- Electronic damping facility for further acoustic noise and mechanic vibrations reduction.
- Available in plastic boxed version with plug-in connectors.
- Maximum compactness.
- Optoinsulated auxiliary and programmable inputs and outputs.
- UL recognized.
- Warranty: 24 months.

EtherCAT®

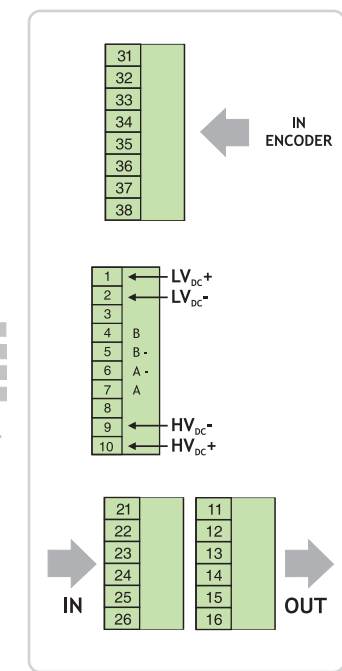
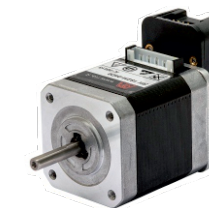


SCAN THE QR CODE TO WATCH A VIDEO ON THE AUTO-SYNC FUNCTION

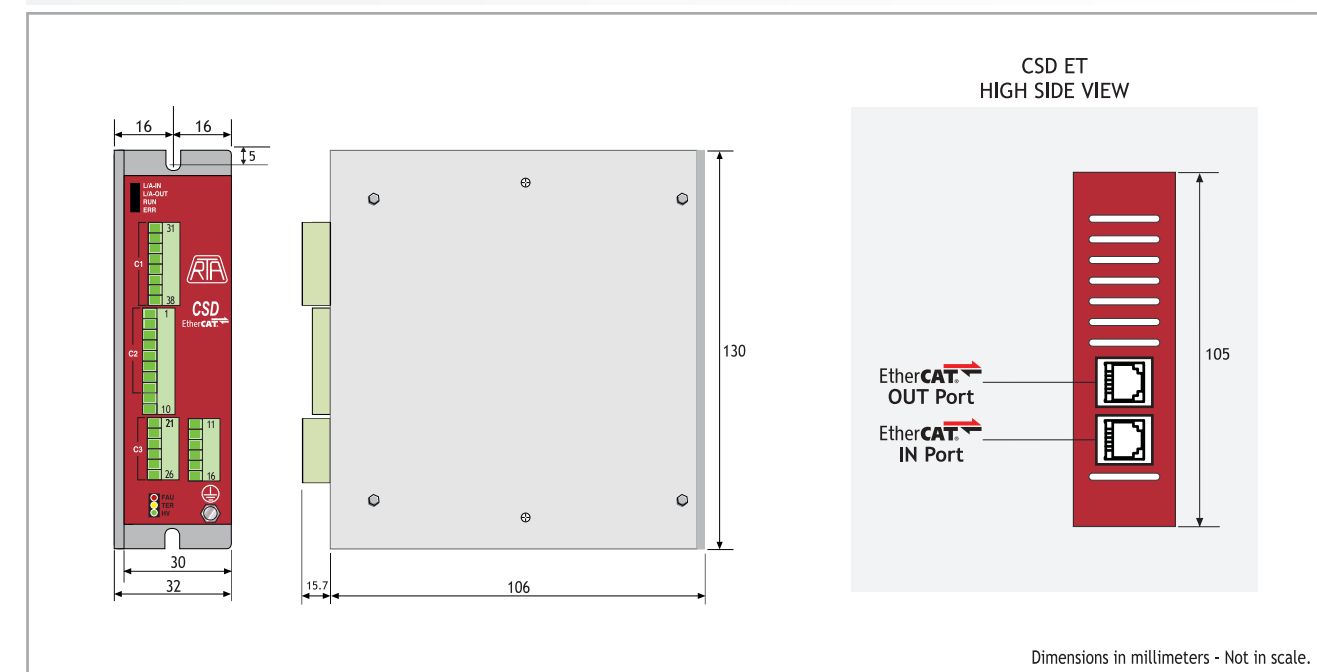


POWER AND LOGIC CONNECTIONS

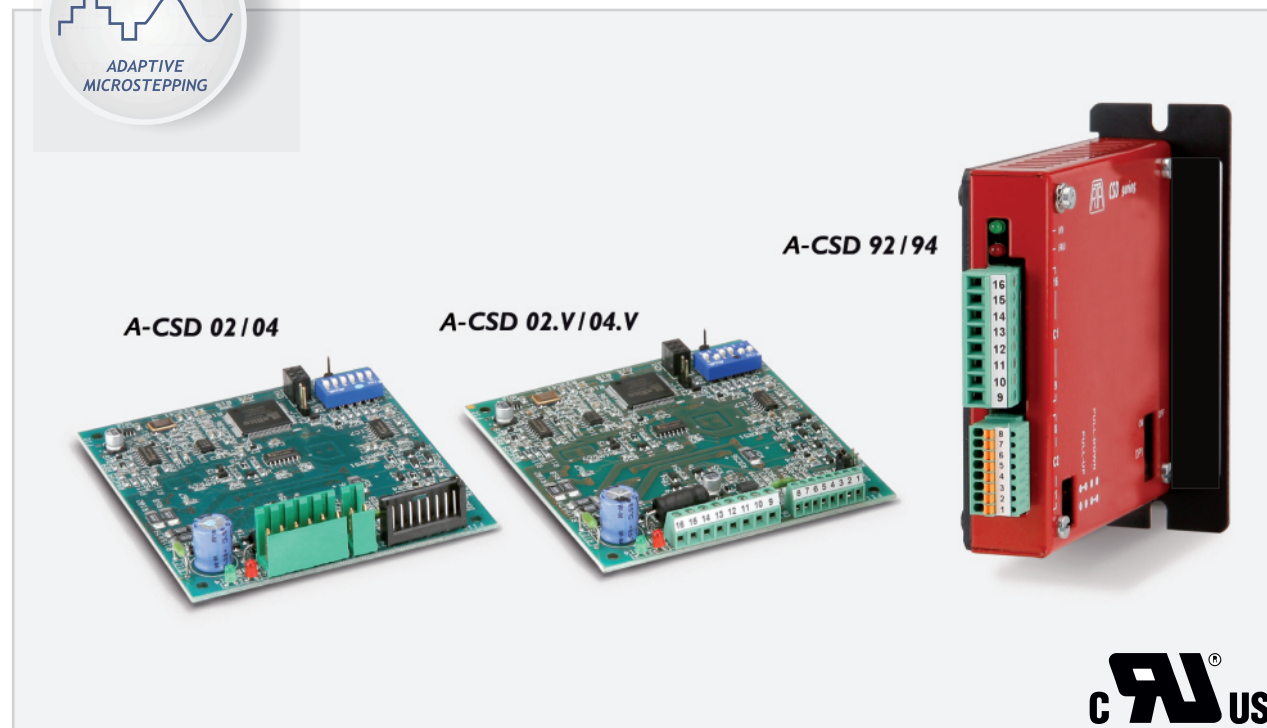
R.T.A. MOTORS
RH/EM SERIES



MECHANICAL DIMENSIONS



A-CSD Series Drives



INTRODUCTION

- New series of bipolar microstep stepping motor drives, specifically developed for applications sensitive to acoustic noise and vibration.
- Significant evolution of the CSD series, preserving backward mechanical, electrical and applicative compatibility.
- Target: advanced applications requiring high precision, smoothness of movement and low acoustic noise.
- UL recognized.

HIGHLIGHTS

- Full digital microstepping drive.
- Adaptive microstepping up to a 3.200 step/rev.
- Intelligent management of the current profile that achieves good results in terms of smoothness of movement, low noise and vibration control.
- A highly sophisticated control system, preserving anyhow the traditional ease of use of R.T.A. drives.

Series	Model	V _{dc} range (Volt)	I _{np} min. (Peak value) (Amp)	I _{np} max. (Peak value) (Amp)	Dimensions (mm)
A-CSD	02 - 02.V*	24 to 48	0.7	2.4	92x85x22
A-CSD	04 - 04.V*	24 to 48	2.6	4.4	92x85x23
A-CSD	92	24 to 48	0.7	2.4	99x90x21
A-CSD	94	24 to 48	2.6	4.4	99x90x21

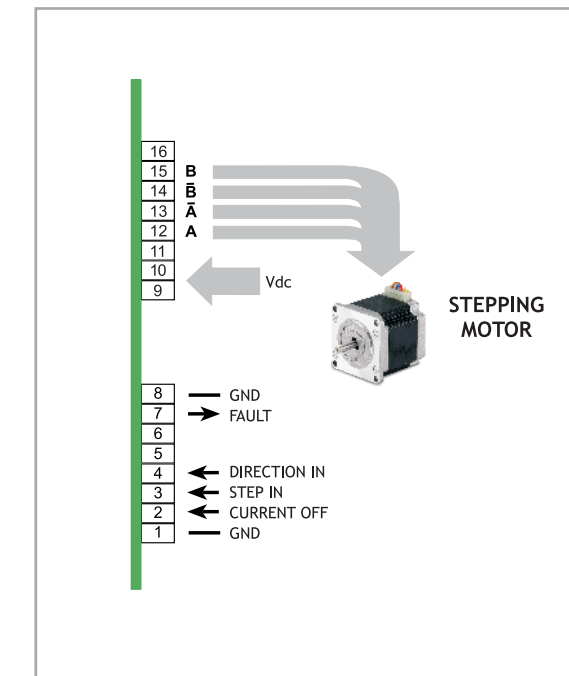
* A-CSD 02.V and A-CSD 04.V versions are equipped with screw-type connectors.

TECHNICAL FEATURES

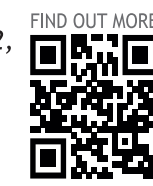
- Range of operating voltage: 24-48 V_{dc}.
- Range of current: 0.7-4.4 Amp. Setting up to eight possible values by means of dip-switches.
- Microstepping: 400, 800, 1.600 and 3.200 steps/revolution. Setting by means of dip-switches.
- Automatic current reduction at motor standstill.
- Management of the current profile setting by means of a dip-switch.
- Protections:
 - Protection against under-voltage and over-voltage.
 - Protection against a short-circuit at motor outputs.
 - Overtemperature protection with thermal sensor.
- Electronic damping facility for further acoustic noise and mechanic vibrations reduction.
- Available versions: boxed/open frame, crimp-type/screw-type connectors. Maximum compactness.
- UL recognized.
- Warranty: 24 months.



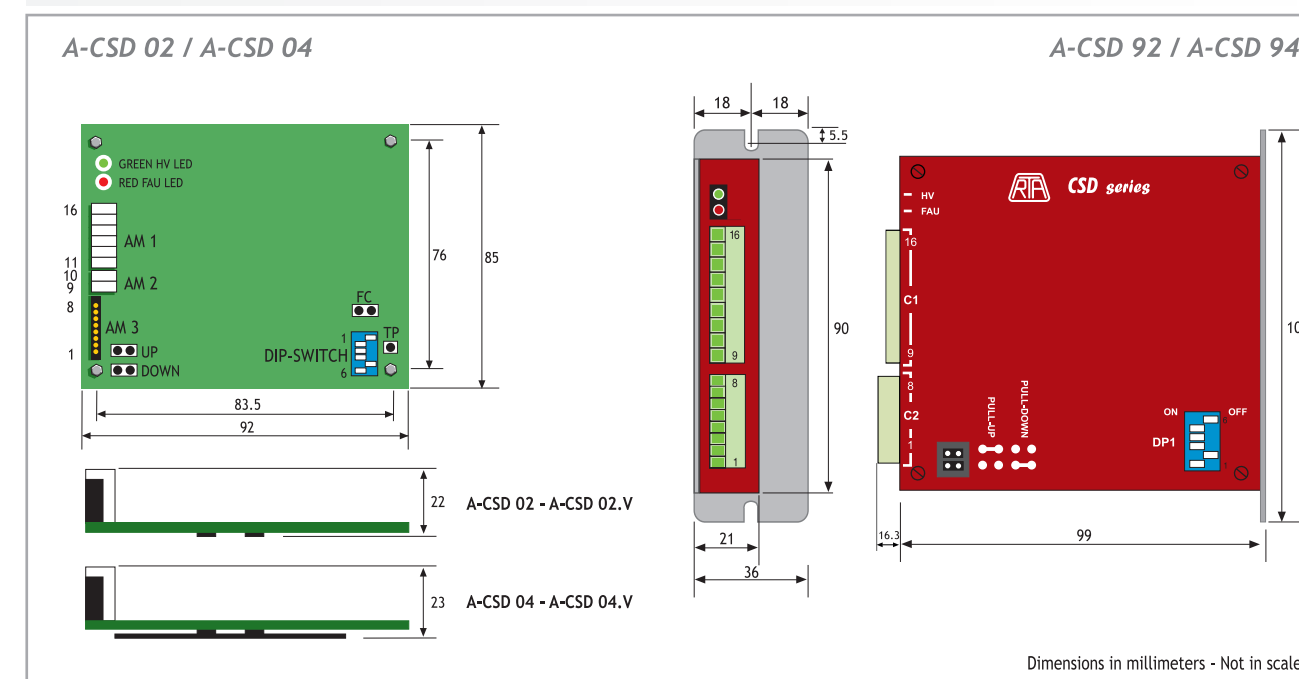
POWER AND LOGIC CONNECTIONS



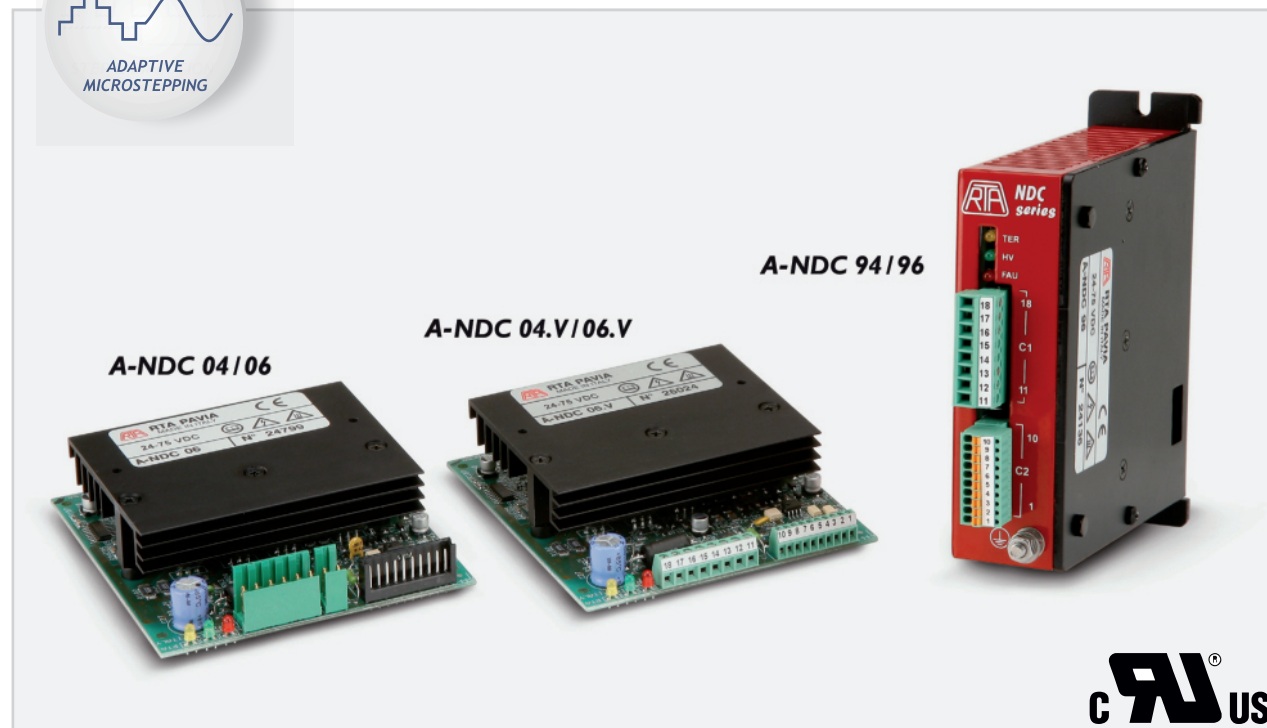
A-CSD is included in KIT CNC 02, a complete 48 VDC motion solution, designed for 3-axes CNC Router machines.



MECHANICAL DIMENSIONS



A-NDC Series Drives



INTRODUCTION

- New series of bipolar microstep stepping motor drives, specifically developed for applications sensitive to acoustic noise and vibration.
- Significant evolution of the NDC series, preserving backward mechanical, electrical and applicative compatibility.
- Target: advanced applications requiring high precision, smoothness of movement and low acoustic noise.
- UL recognized.

HIGHLIGHTS

- Full digital microstepping drive.
- Adaptive microstepping up to a 12.800 step/rev (1/64).
- Intelligent management of the current profile that achieves good results in terms of smoothness of movement, low noise and vibration control.
- A highly sophisticated control system, preserving anyhow the traditional ease of use of R.T.A. drives.

Series	Model	V _{DC} range (Volt)	I _{NP} min. (Peak value) (Amp)	I _{NP} max. (Peak value) (Amp)	Dimensions (mm)
A-NDC	04 - 04.V*	24 to 85	0.6	2.0	101x94x25
A-NDC	06 - 06.V*	24 to 85	1.9	6.0	101x94x25
A-NDC	94	24 to 85	0.6	2.0	110x108x34
A-NDC	96	24 to 85	1.9	6.0	110x108x34

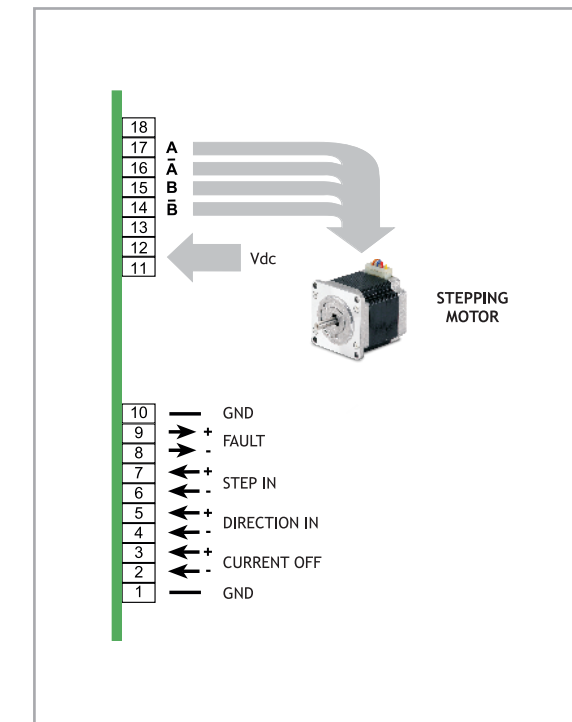
* A-NDC 04.V and A-NDC 06.V versions are equipped with screw-type connectors.

TECHNICAL FEATURES

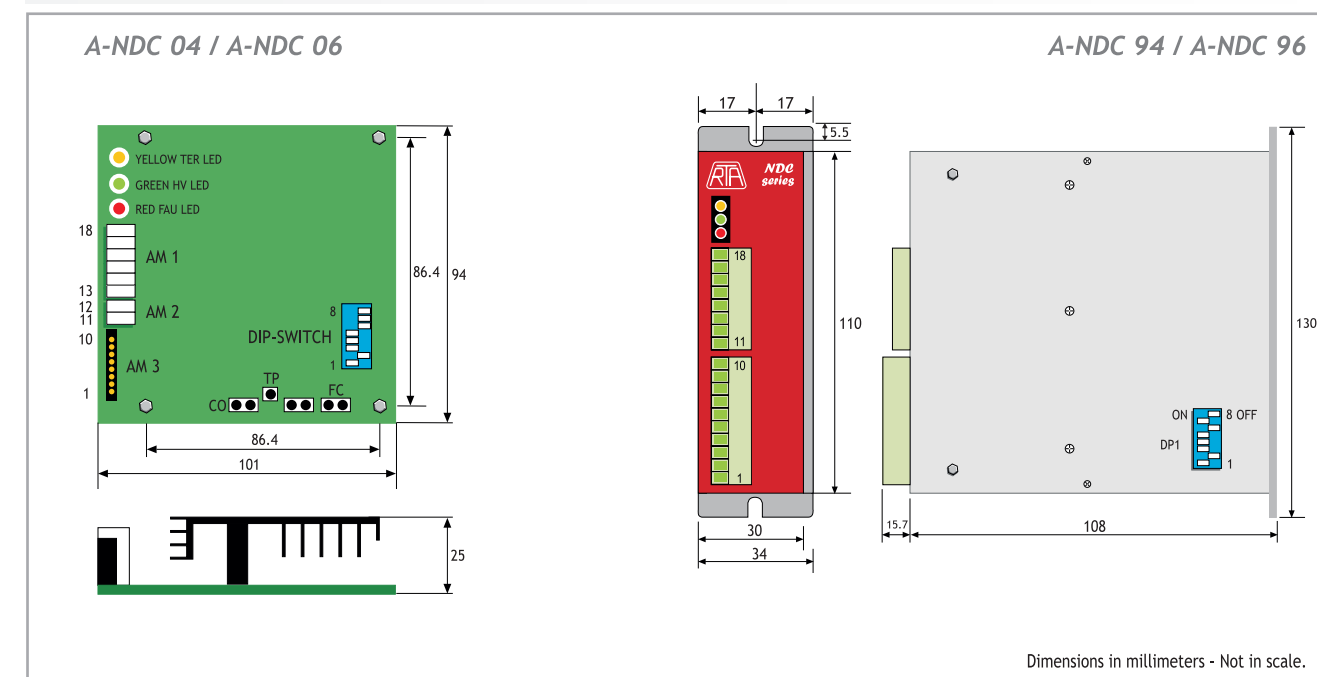
- Range of operating voltage: 24-85 V_{DC}.
- Range of current: 0.6-6 Amp. Setting up to eight possible values by means of dip-switches.
- Microstepping: 400, 800, 1.600, 3.200, 6.400 and 12.800 steps/revolution. Setting by means of dip-switches.
- Automatic current reduction at motor standstill.
- Management of the current profile setting by means of a dip-switch.
- Protections:
 - Protection against under-voltage and over-voltage.
 - Protection against a short-circuit at motor outputs.
 - Overtemperature protection with thermal sensor.
- Electronic damping facility for further acoustic noise and mechanic vibrations reduction.
- Available versions: boxed/open frame, crimp-type/screw-type connectors. Maximum compactness.
- Optoinsulated inputs to ensure best EM noise immunity.
- UL recognized.
- Warranty: 24 months.



POWER AND LOGIC CONNECTIONS



MECHANICAL DIMENSIONS



Dimensions in millimeters - Not in scale.

ADW Series Drives



INTRODUCTION

- ADW is the new R.T.A. electronic drive designed for all applications where accurate SPEED CONTROL is needed.
- The motor velocity can be regulated in 3 ways:
 - Analog voltage input
 - External potentiometer
 - Internal speed settings
- The extended ADW power range (24-75 V_{DC}, 0.65 - 6.0 A) and its versatility (four Modes of Operation) allow to access to a wide variety of application fields.
- UL recognized.

HIGHLIGHTS

- Any speed-regulated applications with variable or pre-set velocity setting.
- Conveyors:
 - Single belt transport
 - Multi belt transport with high precision position/speed synchronization.
- Jog or adjustment movements.

MODES OF OPERATION

- | | |
|-------------------|---------------------|
| 1 RUN MODE | 3 CW/CCW (JOG) |
| 2 START/STOP MODE | 4 LIMIT SWITCH MODE |

Series	Model	V _{DC} range (V)	I _{NP} min. (Peak value) (A)	I _{NP} max. (Peak value) (A)	Dimensions (mm)
ADW	04 - 04.V*	24 to 75	0.65	2.0	122x94x25
ADW	06 - 06.V*	24 to 75	1.9	6.0	122x94x25
ADW	94	24 to 75	0.65	2.0	129x110x34
ADW	96	24 to 75	1.9	6.0	129x110x34

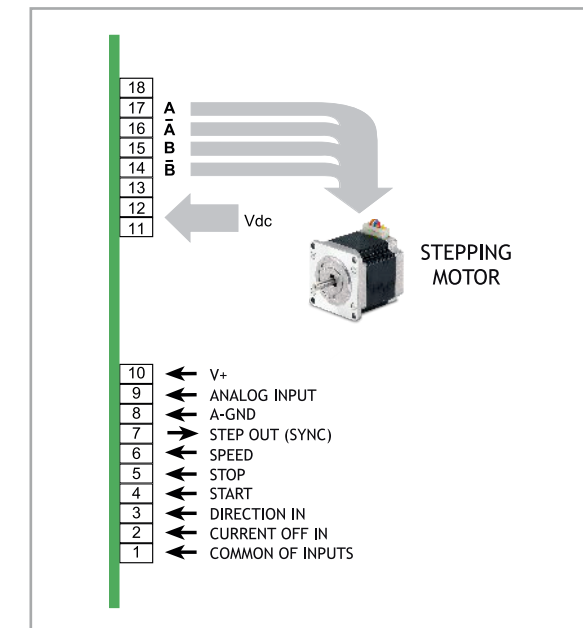
* ADW 04.V and ADW 06.V versions are equipped with screw-type connectors.

TECHNICAL FEATURES

- Range of operating voltage: 24-75 V_{DC}.
- Range of current: 0.65-6 A. Easy setting of values by means of dip-switches.
- Wide speed range: 0.8 rpm to 2,000 rpm. Continuous operation zone up to approx 400 rpm, depending on motor choice.
- 64 internally selectable preset speed.
- 0-5Vdc or 0-10Vdc selectable analog command range.
- Low & High-speed motion profile.
- Adjustable internal acceleration/deceleration ramp.
- Voltage source for potentiometer available at connector.
- "Auto-stop" function.
- All opto-insulated digital inputs.
- Sync-out for multi-Axis synchronization.
- Over-voltage, short-circuit and thermal protection.
- UL recognized.
- Warranty: 24 months.



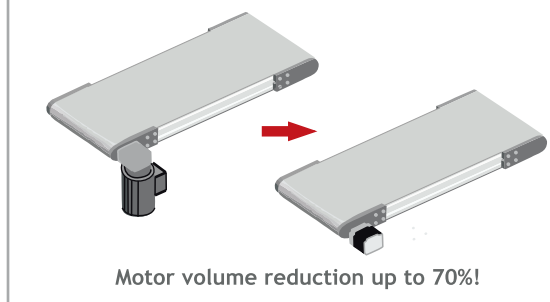
POWER AND LOGIC CONNECTIONS



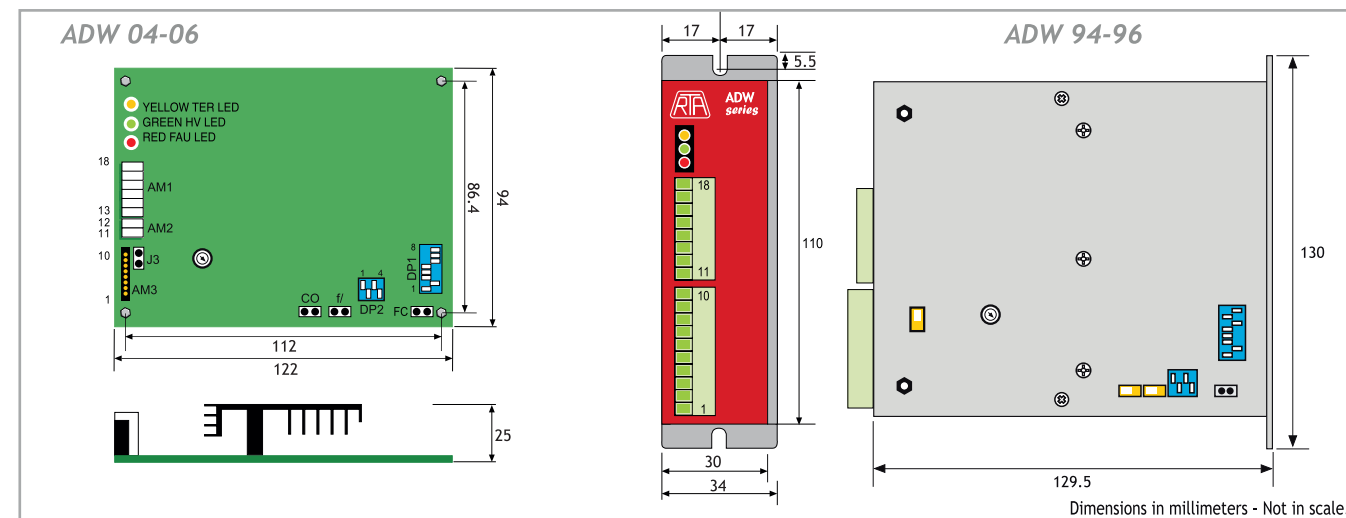
BENEFITS VS. CONVENTIONAL INVERTERS + AC MOTORS + WORM GEARBOX SETUP.

- Broader and more accurate speed range [0.8 rpm to 2,000 rpm].
- Zero-deviation motor speed control at any speed. [motor speed is not affected by variable factors like load, inertia or friction].
- The motors automatically act as brake at zero speed.
- Easy multi-axis synchronization in Position and Speed.
- No need of worm gearbox due to the high-torque at low rotation speed range [0-400 rpm].
- Smaller dimension: overall size < 1/3 compared with traditional AC Asynchronous sets.
- Lower weight.

TYPICAL APPLICATION: DIMENSIONAL COMPARISON



MECHANICAL DIMENSIONS



R-MOD ET Combo Unit

3rd
FIRMWARE
GENERATION

EtherCAT®

INTRODUCTION

R-MOD ET is a series of stepping motors in two sizes with integrated ministep bipolar chopper EtherCAT drives, based on incremental or battery-less multi-turn absolute encoder.

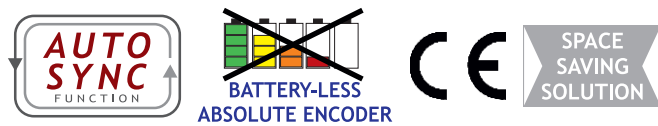
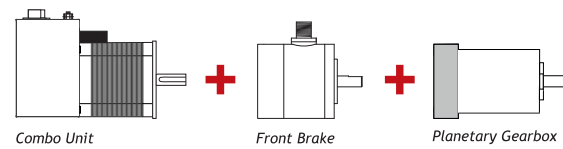
HIGHLIGHTS

- New generation Full Closed Loop Absolute Encoder version available
- Holding Torque up to 300 Ncm
- Communication by means of EtherCAT interface
- Different Operation Modes
- Available Inputs / Outputs
- Different HOMING operation modes
- PROXIMITY hardware input
- AUTO-SYNC function
- Battery-less Multi-turn ABSOLUTE ENCODER versions
- UL/CSA Certified

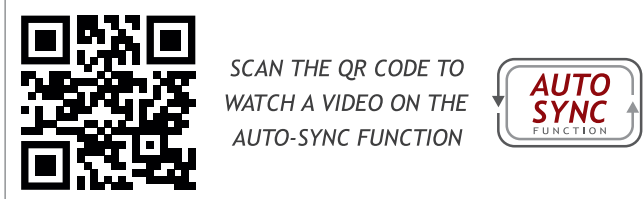
FULL
CLOSED
LOOP



Front Brake and/or Gearbox versions available

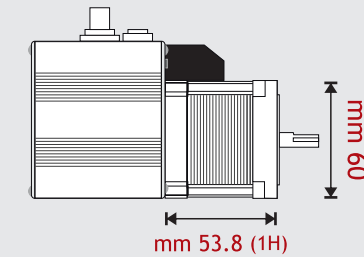


Please refer to download.rta.it for technical specifications

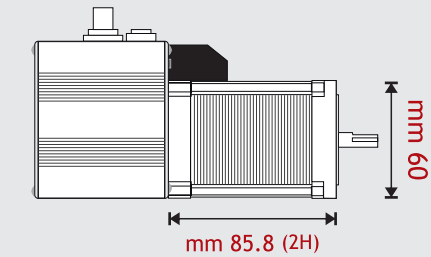


Models	Motor Length (mm)	Holding Torque (Ncm)	Encoder Type	Digital In/Out	Certifications
R-MOD ET A3H2MK <i>Full Closed Loop NEW!</i>	85.8	300	Battery-less Multi-turn Absolute	1/0	CE
R-MOD ET E3H2MA	85.8	300	Incremental	1/0	CE

SIZES AND PERFORMANCES



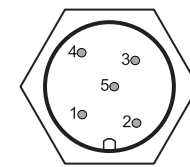
Holding Torque: 170 Ncm



Holding Torque: 300 Ncm

CONNECTION SCHEME

CN1



- 1: Input (PX / Touch probe)
- 2: Power supply
- 3: Input (PX / Touch probe)
- 4: GND
- 5: Logic power supply

CN2



EtherCAT
OUT
(Female)

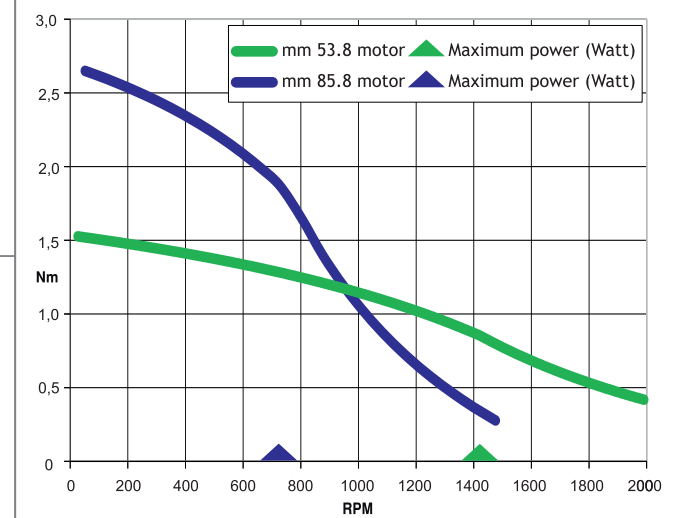
CN3



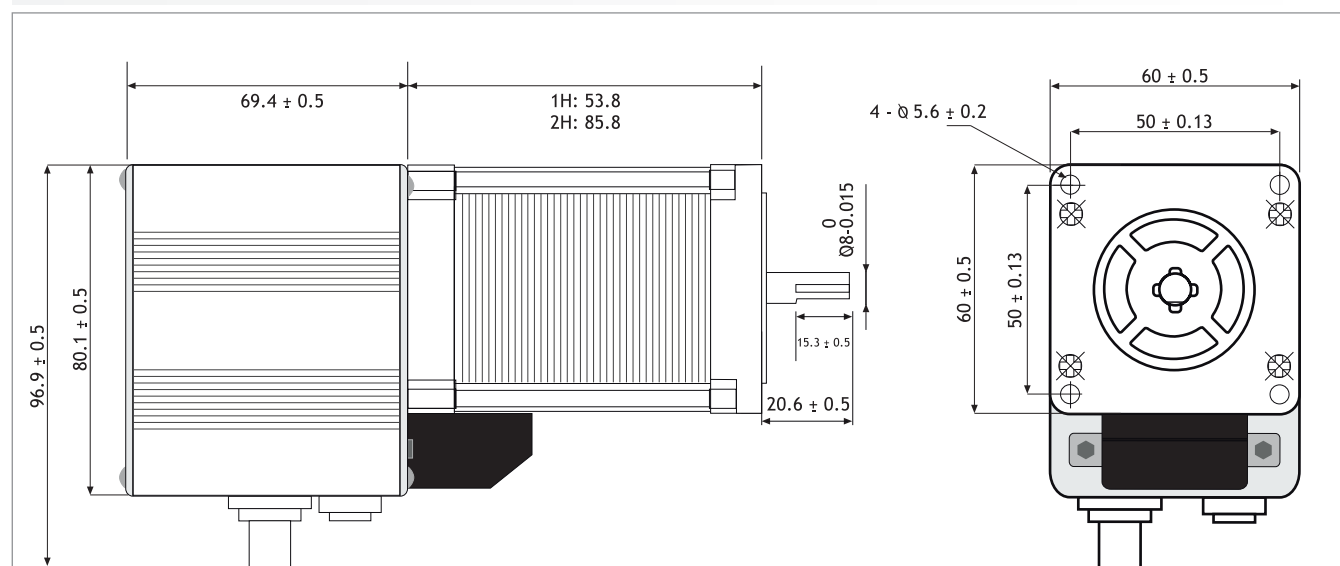
EtherCAT
IN
(Female)

- 1: Trasmit Data +
- 2: Receive Data +
- 3: Trasmit Data -
- 4: Receive data -

TORQUE/SPEED CURVE



MECHANICAL DIMENSIONS (mm)



Starter kit and cable set available.

HI-MOD ETS Combo Unit

3rd
FIRMWARE
GENERATION

EtherCAT

INTRODUCTION

HI-MOD ETS is a series of stepping motors in three sizes with integrated ministep bipolar chopper EtherCAT drives and STO Function, based on incremental or battery-less multi-turn absolute encoder.

HIGHLIGHTS

- New generation Full Closed Loop Absolute Encoder versions available
- Holding Torque up to 920 Ncm
- Communication by means of EtherCAT interface
- Different Operation Modes
- Available Inputs / Outputs
- Different HOMING operation modes
- PROXIMITY hardware input
- AUTO-SYNC function
- Battery-less Multi-turn ABSOLUTE ENCODER versions
- STO Function - SIL3 with Error Detection Monitor

FULL
CLOSED
LOOP

AUTO
SYNC
FUNCTION

BATTERY-LESS
ABSOLUTE ENCODER

STO SIL3
SAFE TORQUE
OFF (STO)

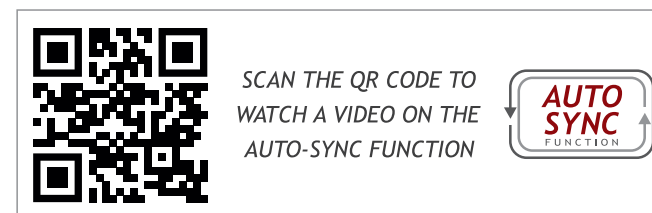
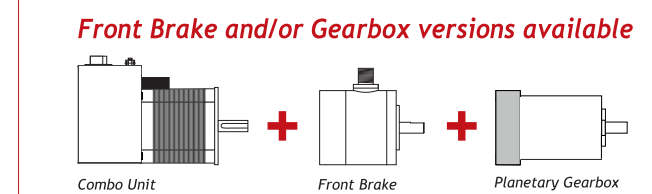
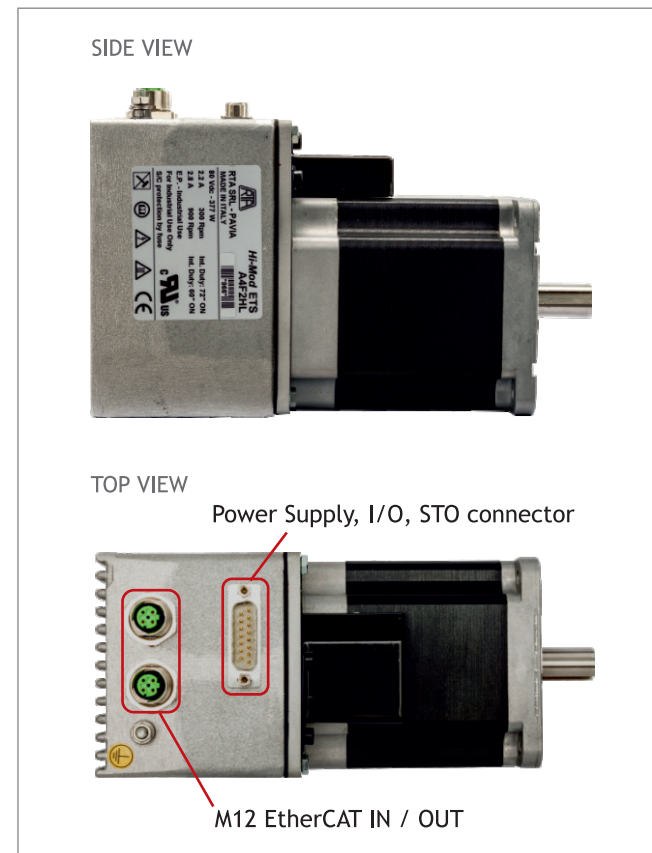
CE

CE

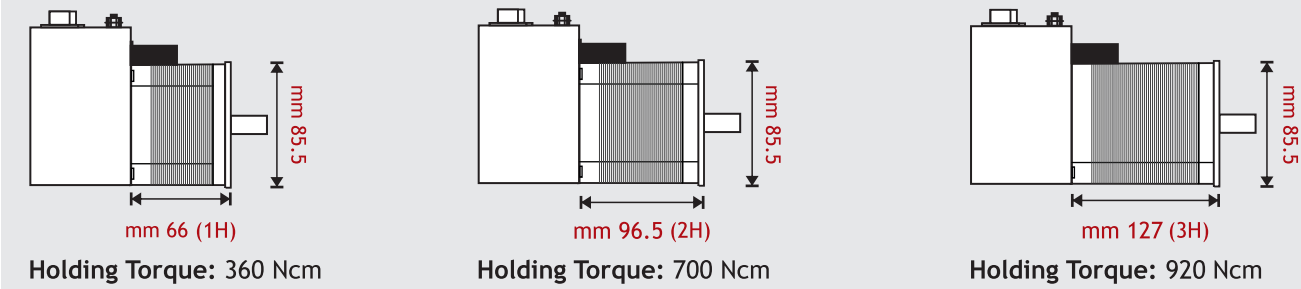
SPACE
SAVING
SOLUTION

Please refer to download.rta.it for technical specifications

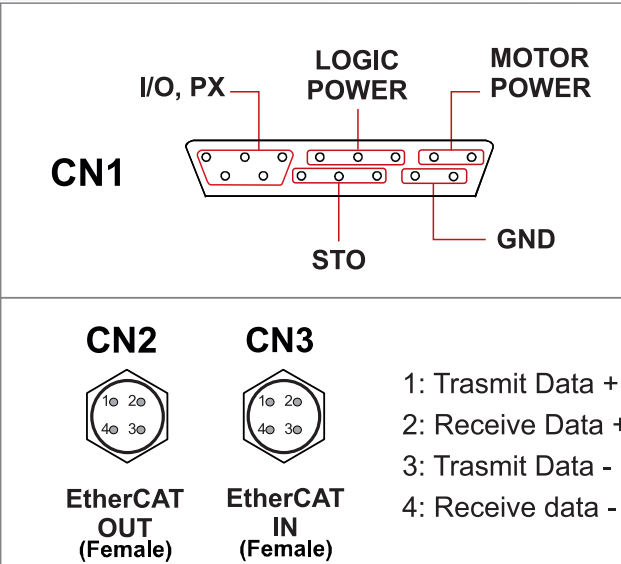
Models	Motor Length (mm)	Holding Torque (Ncm)	Encoder Type	Digital In/Out	STO In	Certifications
HI-MOD ETS A4F2HK <i>Full Closed Loop NEW!</i>	96.5	700	Battery-less Multi-turn Absolute	2/2	2	CE,UL,CSA + STO SIL3
HI-MOD ET A5F2HK <i>Full Closed Loop NEW!</i>	96.5	700	Battery-less Multi-turn Absolute	2/2	/	CE,UL,CSA
HI-MOD ETS E4F2HC	96.5	700	Incremental	2/2	2	CE,UL,CSA + STO SIL3
HI-MOD ET E3F2HA	96.5	700	Incremental	1/0	/	CE



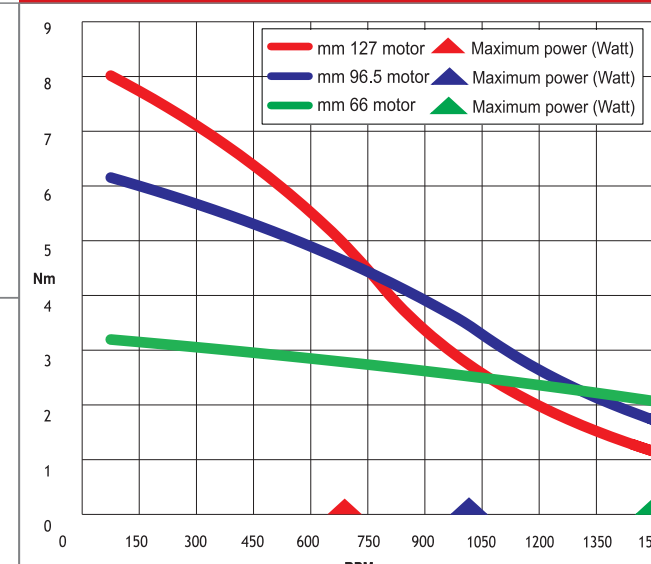
SIZES AND PERFORMANCES



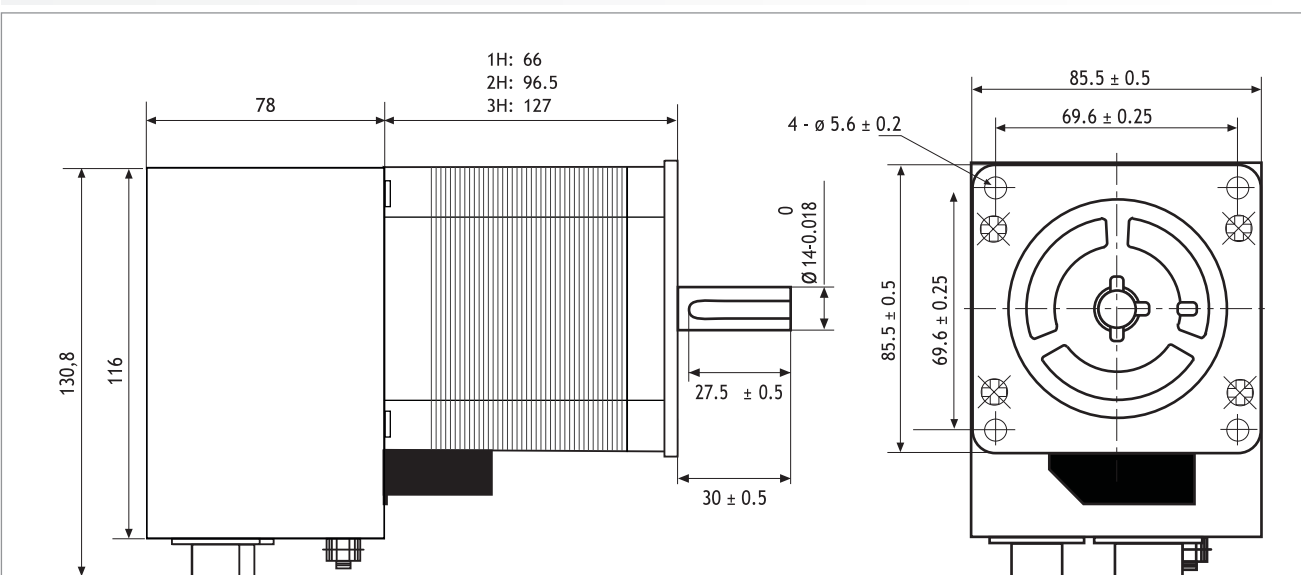
CONNECTION SCHEME



TORQUE/SPEED CURVE



MECHANICAL DIMENSIONS (mm)



Starter kit and cable set available.

STEPPING MOTOR DRIVES ACCESSORIES

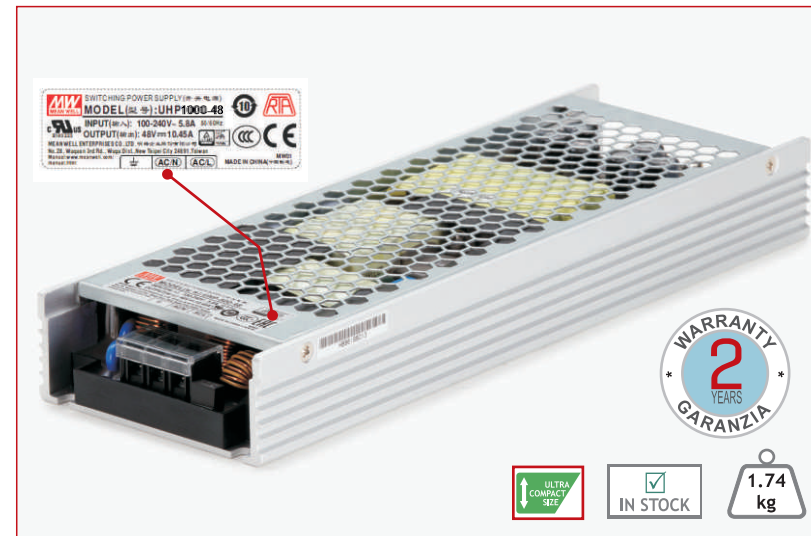
SWITCHING POWER SUPPLIES



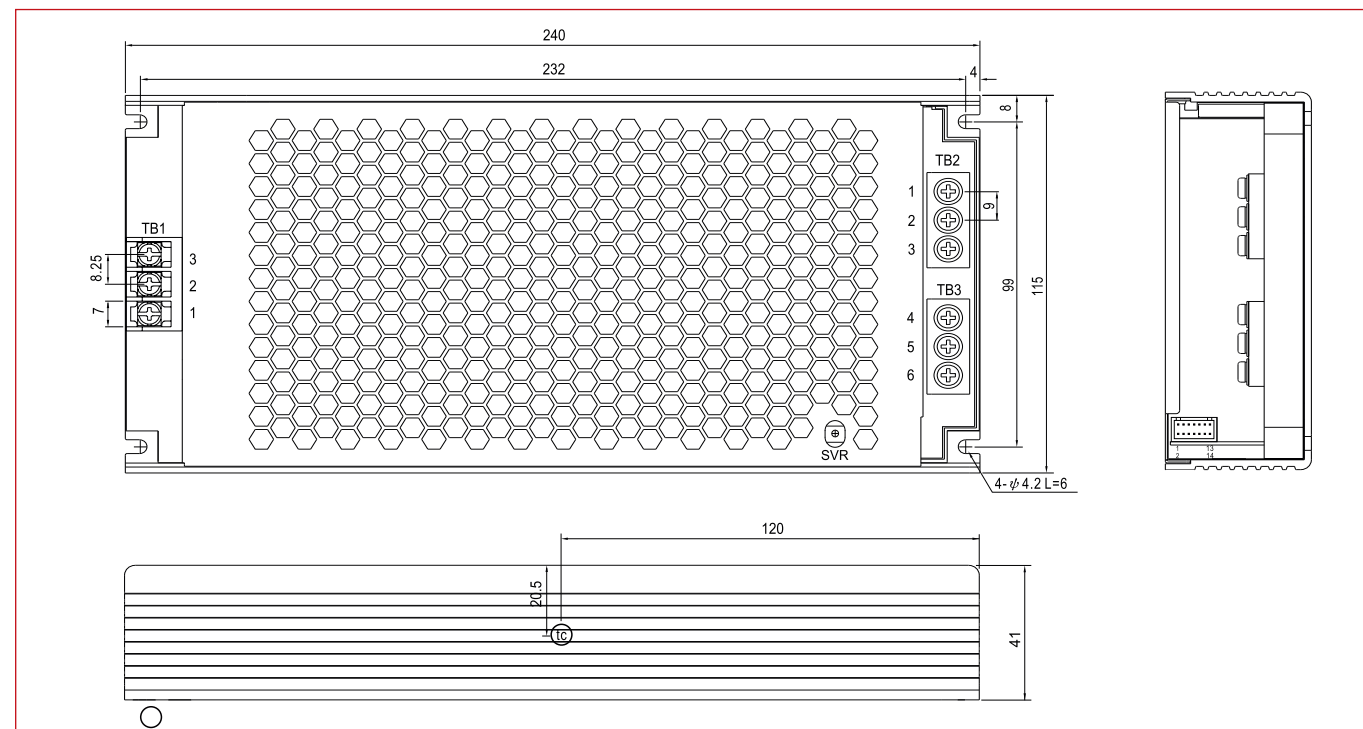
R-UHP 1000-48 SWITCHING POWER SUPPLY

Main Features

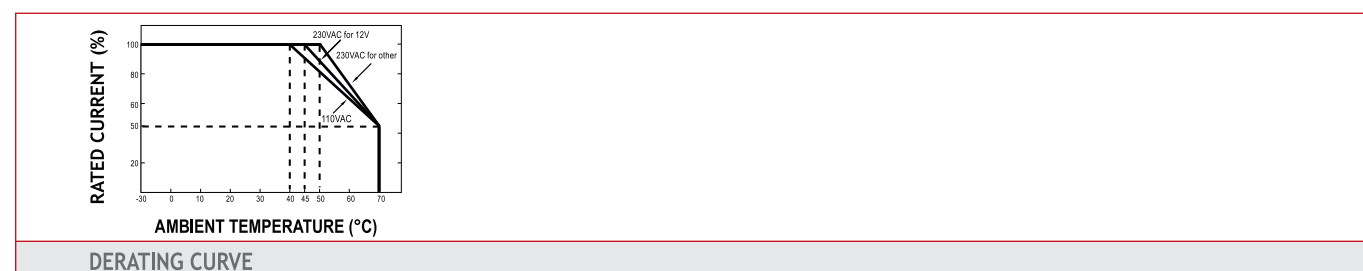
- 21 A output - 48 VDC
- AC input voltage range:90-264 VAC
- -30~+70 °C ambient temperature
- Protections: Short Circuit, Overload, Over Voltage, Over Temperature
- V_{DC_OK} signal active
- Led indicator for power on
- Warranty: 24 months



Dimensions (Units:mm)



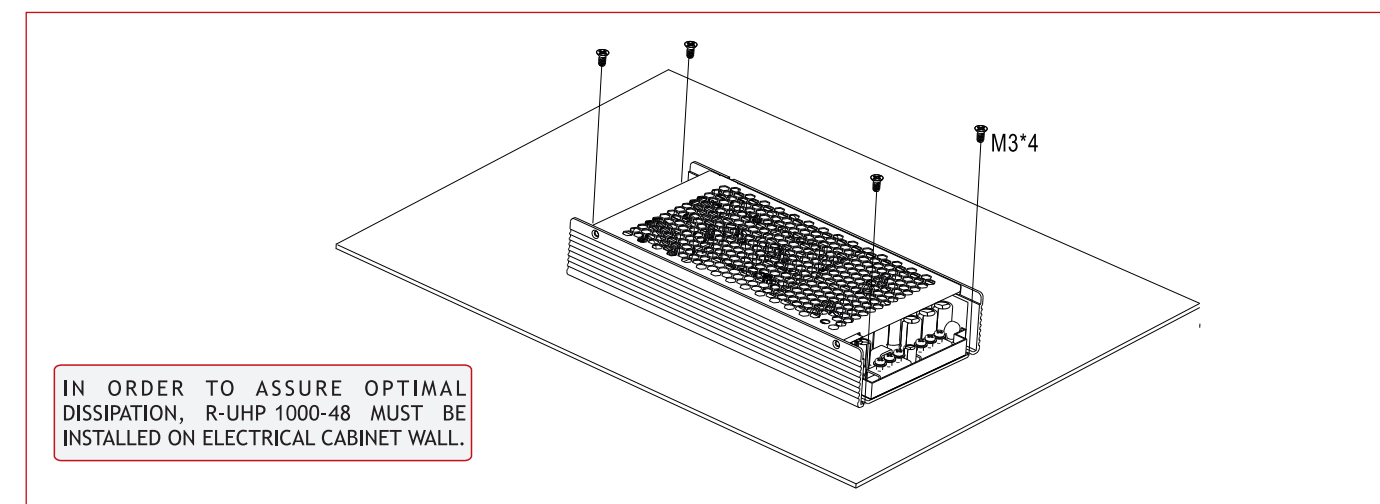
MORE INFO

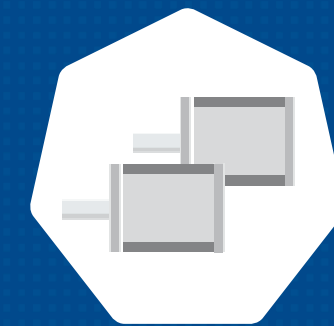


Specifications

MODEL	R-UHP 1000-48	
DC VOLTAGE	48V	
RATED CURRENT	21A	
RATED POWER	1008W	
OUTPUT	VOLTAGE ADJ. RANGE	48 - 57.6V
	VOLTAGE TOLERANCE Note.	±1.0%
	LINE REGULATION	±0.5%
	LOAD REGULATION	±0.5%
	VOLTAGE RANGE Note.3	90 - 264VAC
INPUT	FREQUENCY RANGE	47 - 63Hz
	EFFICIENCY	96%
	AC CURRENT (Typ.)	10.1A/115VAC
OVERLOAD	105 - 120% rated output power	
	Protection type: Constant current limiting with delay shutdown after 3 seconds, re-power to cover	
	59 - 66 V	
OVER VOLTAGE	Protection type: Shut down O/P voltage, re-power on to recover	
OVER TEMPERATURE	Protection type: Shut down O/P voltage, recovers automatically after temperature goes down	
FUNCTION	DC_OK SIGNAL(Optional)	The TTL signal out, PSU turn on=4.5 - 5.5V; PSU turn off= -01 - 0.5V
ENVIRONMENT	WORKING TEMP.	-30 ~ +70 °C (Refer to «Derating Curve»)
	WORKING HUMIDITY	20 - 90% RH non-condensing
	VIBRATION	10 - 500Hz, 5G 10min./1cycle, 60min. each along X, Y, Z axes
SAFETY & EMC (Note.5)	SAFETY STANDARDS	UL62368-1, TUV BS EN/EN62368-1, EAC TP TC 004 approved; design refer to BS EN/EN61558-1, BS EN/EN60335-1
	WITHSTAND VOLTAGE	I/P-O/P:3 75KVAC I/P-FG:2KVAC O/P-FG:1 25KVAC
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms/500VDC/25 °C/70%RH
	EMC EMISSION	Compliance to EN55032,GB9254,Class B, EN55014,EN61000-3-2,-3,EAC TP TC 020
	EMC IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11;EN61000-6-2 (EN50082-2), heavy industry level ,criterial A, EAC TP TC020
OTHERS	MTBF 218.86K hrs min. Telcordia SR-332 (Bellcore); 69.81K hrs min. MIL-HDBK-217F(25 °C)	
NOTE	<ol style="list-style-type: none"> 1. All parameters NOT specially mentioned are measured at 230 VAC input, rated load and 25 °C ambient temperature. 2. Tolerance: includes set up tolerance, line regulation and load regulation. 3. Please check the derating curve for more details. 4.The ambient temperature derating of 5 °C /1000m is needed for operating altitude greater than 2000m (6500ft). 5. The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that is still meets EMC directives. 	

Mounting



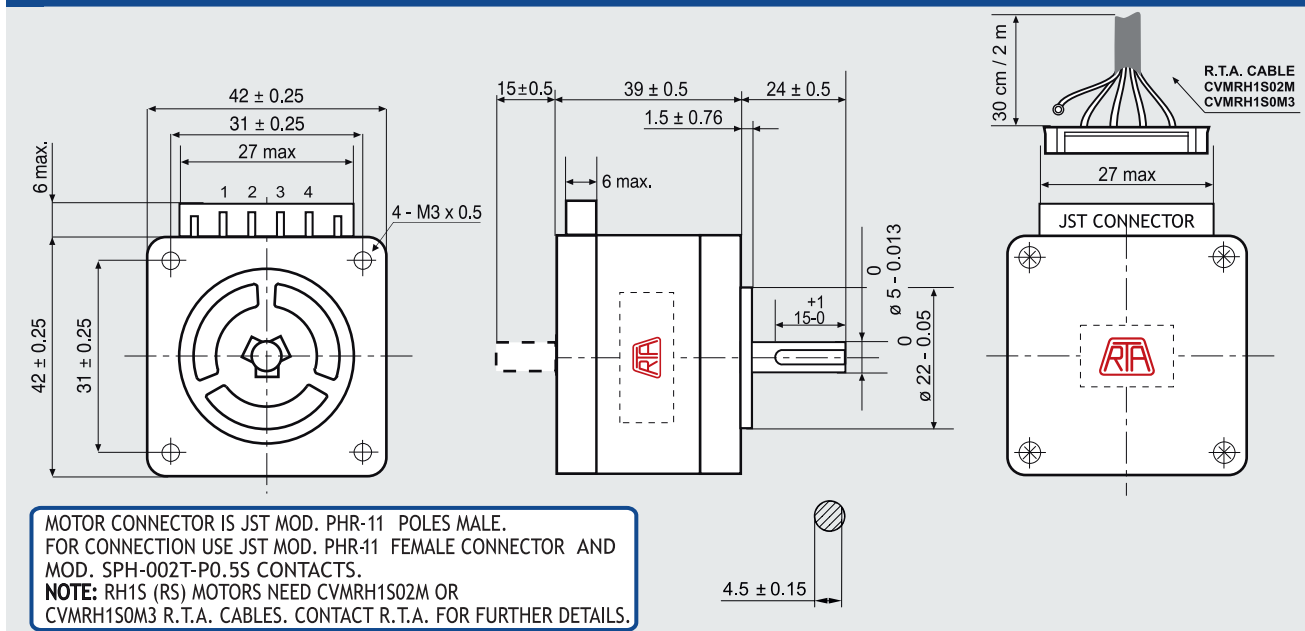


STEPPING MOTORS



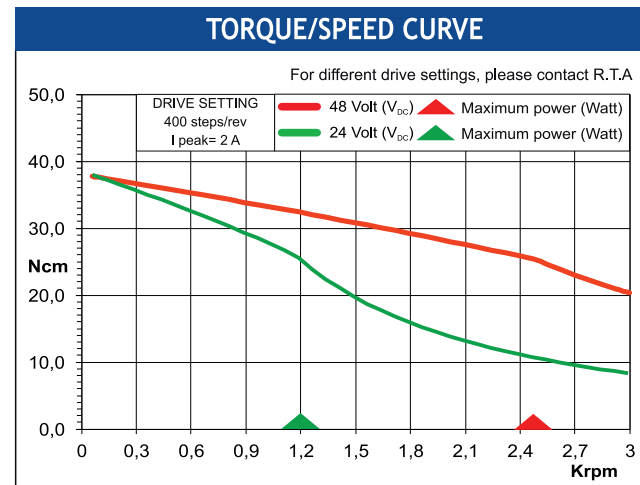
RH 1S1H

Dimensions (Unit:mm)



FEATURES		RH 1S1H (RH 1S1H-RS)
MODEL		RH 1S1H (RH 1S1H-RS)
BASIC STEP ANGLE		1.8 ± 0.09°
BIPOLAR CURRENT	(Amp)	2.0
UNIPOLAR CURRENT	(Amp)	
RESISTANCE	(Ohm)	1.1
INDUCTANCE	(mH)	2.4
BIPOLAR HOLDING TORQUE	(Ncm)	43
UNIPOLAR HOLDING TORQUE	(Ncm)	
ROTOR INERTIA	(Kg·m ² × 10 ⁻⁷)	46
THEORETICAL ACCELERATION	(rad × sec. ⁻²)	93000
BACK E.M.F.	(V/Krpm)	21.5
MASS	(Kg)	0.3
PROTECTION DEGREE		IP40
LEADS CODE		V

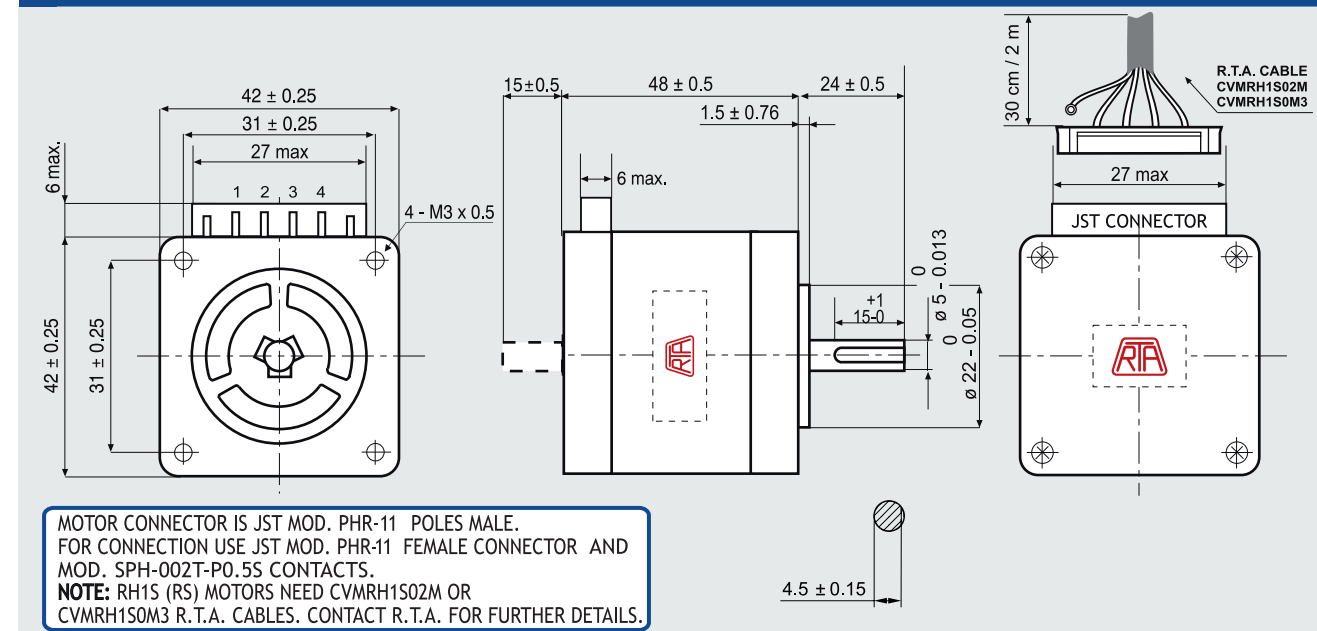
Codes between brackets refer to double shaft models.



Suggested R.T.A. drive series: BSD, CSD, FLEX-DRIVE

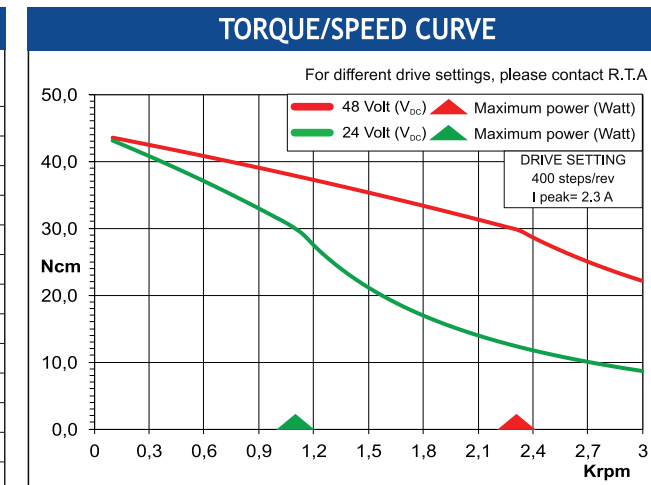
RH 1S2H

Dimensions (Unit:mm)



FEATURES		RH 1S2H (RH 1S2H-RS)
MODEL		RH 1S2H (RH 1S2H-RS)
BASIC STEP ANGLE		1.8 ± 0.09°
BIPOLAR CURRENT	(Amp)	2.3
UNIPOLAR CURRENT	(Amp)	
RESISTANCE	(Ohm)	0.93
INDUCTANCE	(mH)	2.2
BIPOLAR HOLDING TORQUE	(Ncm)	56
UNIPOLAR HOLDING TORQUE	(Ncm)	
ROTOR INERTIA	(Kg·m ² × 10 ⁻⁷)	63
THEORETICAL ACCELERATION	(rad × sec. ⁻²)	89000
BACK E.M.F.	(V/Krpm)	24.3
MASS	(Kg)	0.38
PROTECTION DEGREE		IP40
LEADS CODE		V

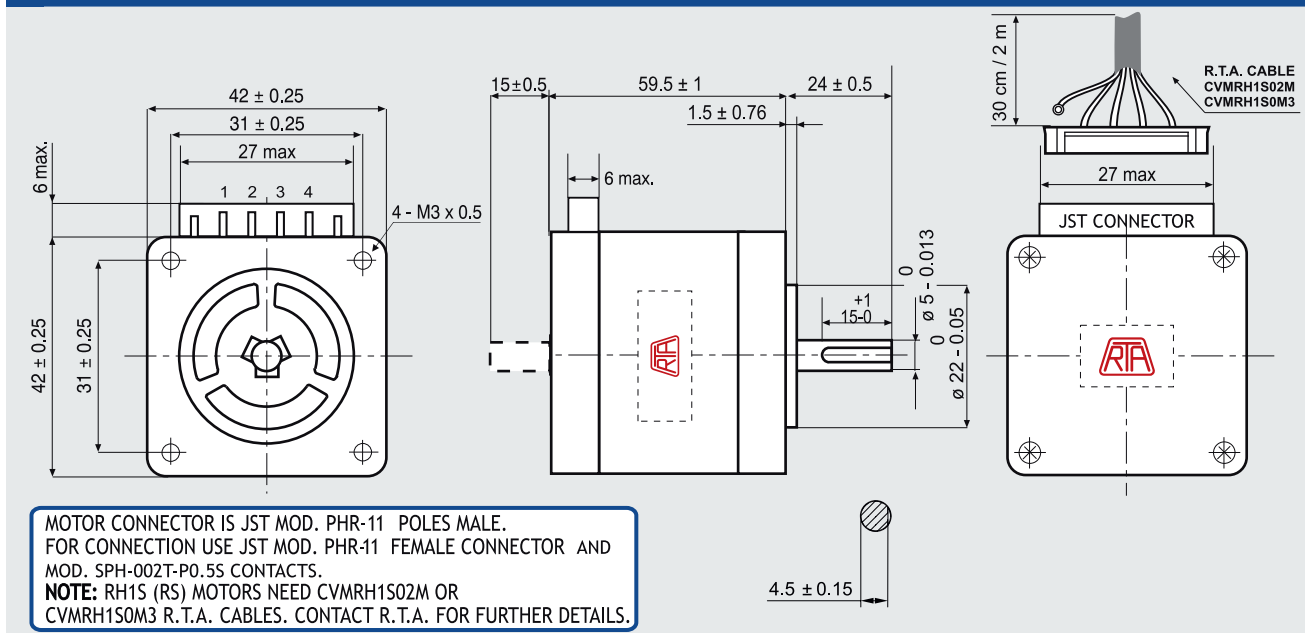
Codes between brackets refer to double shaft models.



Suggested R.T.A. drive series: BSD, CSD, FLEX-DRIVE

RH 1S3H

Dimensions (Unit:mm)



FEATURES		RH 1S3H (RH 1S3H-RS)
MODEL		RH 1S3H (RH 1S3H-RS)
BASIC STEP ANGLE		1.8 ± 0.09°
BIPOLAR CURRENT	(Amp)	2.3
UNIPOLAR CURRENT	(Amp)	
RESISTANCE	(Ohm)	1.2
INDUCTANCE	(mH)	3.0
BIPOLAR HOLDING TORQUE	(Ncm)	80
UNIPOLAR HOLDING TORQUE	(Ncm)	
ROTOR INERTIA	(Kg·m ² × 10 ⁻⁷)	94
THEORETICAL ACCELERATION	(rad × sec. ⁻²)	85100
BACK E.M.F.	(V/Krpm)	34.7
MASS	(Kg)	0.51
PROTECTION DEGREE		IP40
LEADS CODE		V

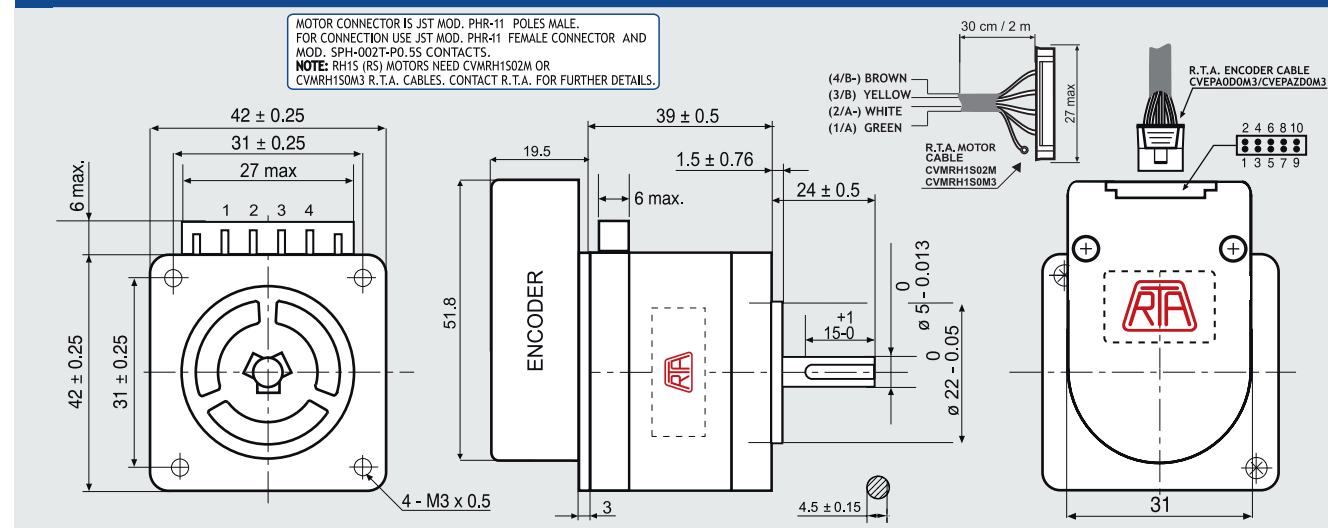
Codes between brackets refer to double shaft models.



Suggested R.T.A. drive series: BSD, CSD, FLEX-DRIVE

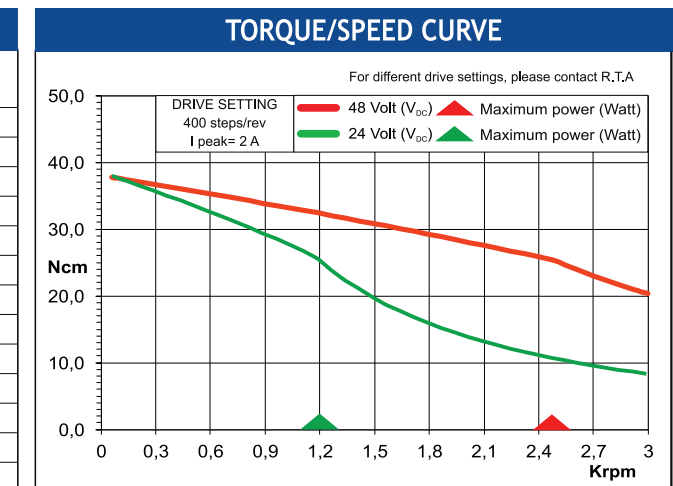
RH 1S1H-OXX0

Dimensions (Unit:mm)



ENCODER OPTIONS:	RH 1S1H-04D0	RH 1S1H-04E0	RH 1S1H-0HE0
RESOLUTION	400 cpr	400 cpr	4000 cpr
INDEX	No	Yes	Yes
CURRENT CONSUMPTION (mA)	50	50	85
HIGH LEVEL OUTPUT (Volt)	5 (TIP) - 4.75 (MIN) (I _{max} =25mA)	3.4 (TIP) - 2.4 (MIN) (I _{max} =20mA)	3.4 (TIP) - 2.4 (MIN) (I _{max} =20mA)
LOW LEVEL OUTPUT (Volt)	0.25 (TIP) - 0.6 (MAX) (I _{max} =25mA)	0.2 (TIP) - 0.4 (MAX) (I _{max} =20mA)	0.2 (TIP) - 0.4 (MAX) (I _{max} =20mA)
OUTPUT SIGNAL	Differential	Differential	Differential
MAXIMUM FREQUENCY (KHz)	100	100	720
POWER SUPPLY VOLTAGE (Volt)	5 V _{dc} ± 10%	5 V _{dc} ± 10%	5 V _{dc} ± 10%

FEATURES		RH 1S1H
MODEL		RH 1S1H
BASIC STEP ANGLE		1.8 ± 0.09°
BIPOLAR CURRENT	(Amp)	2.0
UNIPOLAR CURRENT	(Amp)	
RESISTANCE	(Ohm)	1.1
INDUCTANCE	(mH)	2.4
BIPOLAR HOLDING TORQUE	(Ncm)	43
UNIPOLAR HOLDING TORQUE	(Ncm)	
ROTOR INERTIA	(Kg·m ² × 10 ⁻⁷)	46
THEORETICAL ACCELERATION	(rad × sec. ⁻²)	93000
BACK E.M.F.	(V/Krpm)	21.5
MASS	(Kg)	0.3
PROTECTION DEGREE		IP40
LEADS CODE		V



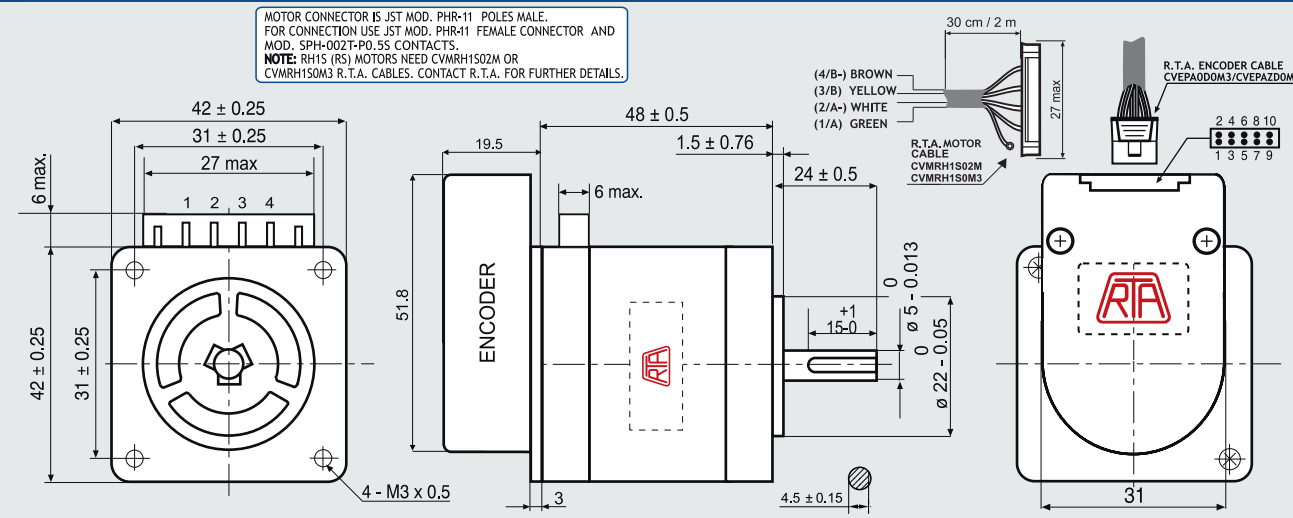
RTA MOTOR CABLE COLORS		ENCODER PIN-OUT		
DESCRIPTION		04D0 PINS	04E0/0HE0 PINS	R.T.A. CABLE LEADS COLOR
CHANNEL A	GREEN	6	6	GREEN
CHANNEL A-	WHITE	5	5	PURPLE
CHANNEL B	YELLOW	8	8	BLUE
CHANNEL B-	BROWN	7	7	BROWN
		+ DC (5V)	2	RED
		GROUND	3	BLACK
		INDEX+	/	ORANGE
		INDEX-	/	WHITE

R.T.A. CABLE (30 cm) CVEPA00M3 CVEPAZ0M3

Suggested R.T.A. drive series: BSD, CSD, FLEX-DRIVE

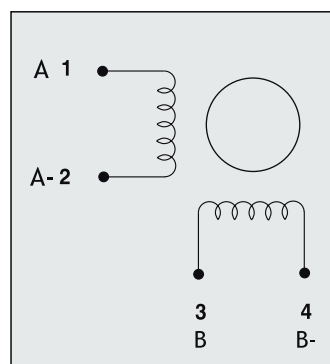
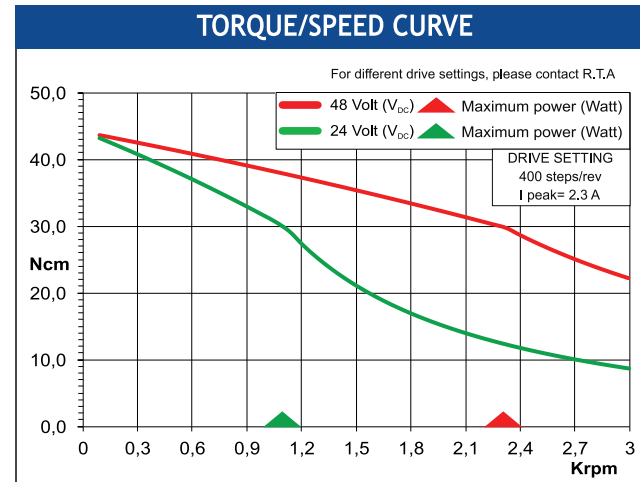
RH 1S2H-0XX0

Dimensions (Unit:mm)



ENCODER OPTIONS:	RH 1S2H-04D0	RH 1S2H-04E0	RH 1S2H-0HE0
RESOLUTION	400 cpr	400 cpr	4000 cpr
INDEX	No	Yes	Yes
CURRENT CONSUMPTION (mA)	50	50	85
HIGH LEVEL OUTPUT (Volt)	5 (TIP) - 4.75 (MIN) (I _{max} =25mA)	3.4 (TIP) - 2.4 (MIN) (I _{max} =20mA)	3.4 (TIP) - 2.4 (MIN) (I _{max} =20mA)
LOW LEVEL OUTPUT (Volt)	0.25 (TIP) - 0.6 (MAX) (I _{max} =25mA)	0.2 (TIP) - 0.4 (MAX) (I _{max} =20mA)	0.2 (TIP) - 0.4 (MAX) (I _{max} =20mA)
OUTPUT SIGNAL	Differential	Differential	Differential
MAXIMUM FREQUENCY (KHz)	100	100	720
POWER SUPPLY VOLTAGE (Volt)	5 V _{DC} ± 10%	5 V _{DC} ± 10%	5 V _{DC} ± 10%

FEATURES	
MODEL	RH 1S2H
BASIC STEP ANGLE	1.8 ± 0.09°
BIPOLAR CURRENT (A)	2.3
UNIPOLAR CURRENT (A)	2.3
RESISTANCE (Ohm)	0.93
INDUCTANCE (mH)	2.2
BIPOLAR HOLDING TORQUE (Ncm)	56
UNIPOLAR HOLDING TORQUE (Ncm)	56
ROTOR INERTIA (Kg·m ² × 10 ⁻⁷)	63
THEORETICAL ACCELERATION (rad x sec. ⁻²)	89000
BACK E.M.F. (V/Krpm)	24.3
MASS (Kg)	0.38
PROTECTION DEGREE	IP40
LEADS CODE	V



RTA MOTOR CABLE COLORS

DESCRIPTION	COLOR
CHANNEL A	GREEN
CHANNEL A-	WHITE
CHANNEL B	YELLOW
CHANNEL B-	BROWN

ENCODER PIN-OUT

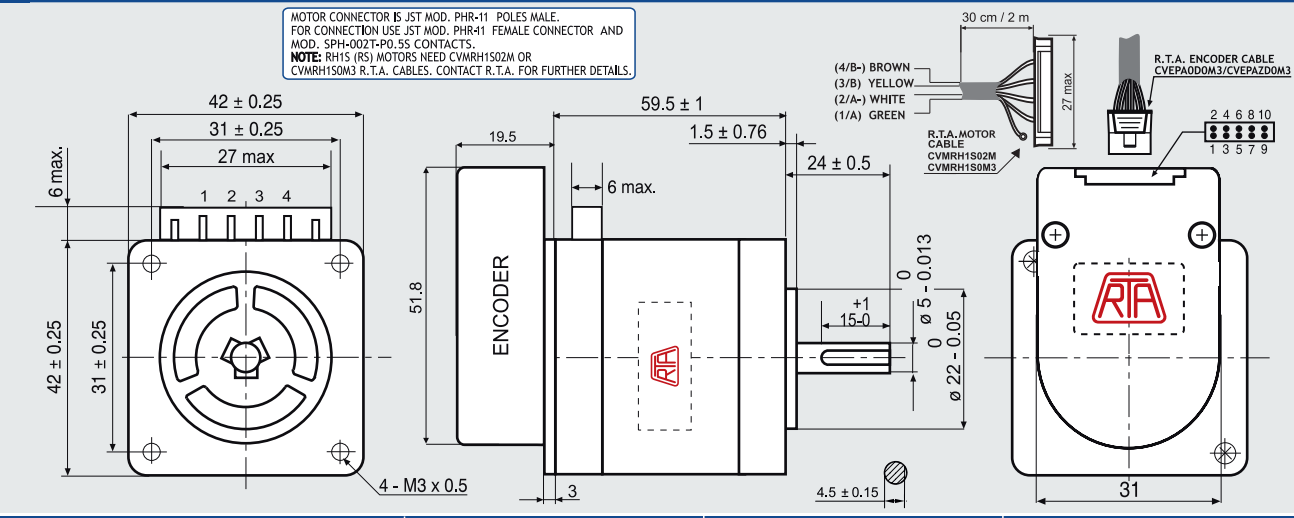
DESCRIPTION	04D0 PINS	04E0/0HE0 PINS	R.T.A. CABLE LEADS COLOR
CHANNEL A+	6	6	GREEN
CHANNEL A-	5	5	PURPLE
CHANNEL B+	8	8	BLUE
CHANNEL B-	7	7	BROWN
+ DC (5V)	2	2	RED
GROUND	3	3	BLACK
INDEX+	/	10	ORANGE
INDEX-	/	9	WHITE

R.T.A. CABLE (30 cm) CVEPA0D0M3 CVEPAZD0M3

Suggested R.T.A. drive series: BSD, CSD, FLEX-DRIVE

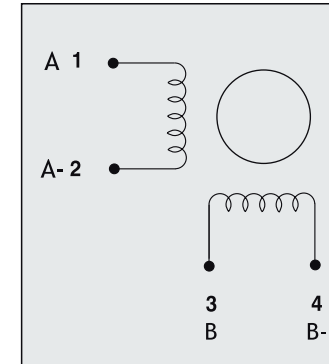
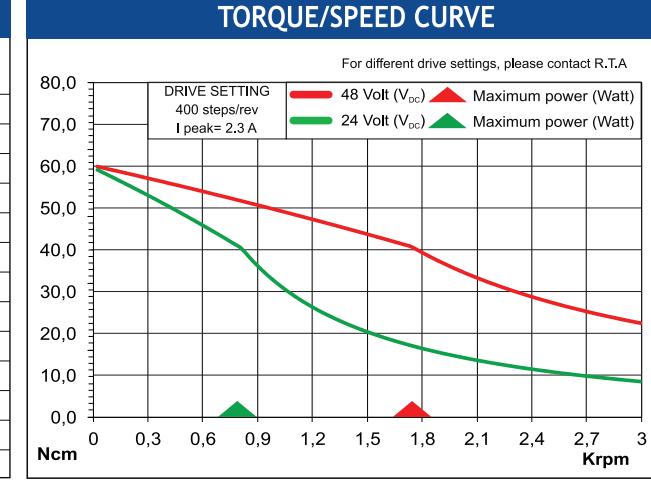
RH 1S3H-0XX0

Dimensions (Unit:mm)



ENCODER OPTIONS:	RH 1S3H-04D0	RH 1S3H-04E0	RH 1S3H-0HE0
RESOLUTION	400 cpr	400 cpr	4000 cpr
INDEX	No	Yes	Yes
CURRENT CONSUMPTION (mA)	50	50	85
HIGH LEVEL OUTPUT (Volt)	5 (TIP) - 4.75 (MIN) (I _{max} =25mA)	3.4 (TIP) - 2.4 (MIN) (I _{max} =20mA)	3.4 (TIP) - 2.4 (MIN) (I _{max} =20mA)
LOW LEVEL OUTPUT (Volt)	0.25 (TIP) - 0.6 (MAX) (I _{max} =25mA)	0.2 (TIP) - 0.4 (MAX) (I _{max} =20mA)	0.2 (TIP) - 0.4 (MAX) (I _{max} =20mA)
OUTPUT SIGNAL	Differential	Differential	Differential
MAXIMUM FREQUENCY (KHz)	100	100	720
POWER SUPPLY VOLTAGE (Volt)	5 V _{DC} ± 10%	5 V _{DC} ± 10%	5 V _{DC} ± 10%

FEATURES	
MODEL	RH 1S3H
BASIC STEP ANGLE	1.8 ± 0.09°
BIPOLAR CURRENT (Amp)	2.3
UNIPOLAR CURRENT (Amp)	2.3
RESISTANCE (Ohm)	1.2
INDUCTANCE (mH)	3.0
BIPOLAR HOLDING TORQUE (Ncm)	80
UNIPOLAR HOLDING TORQUE (Ncm)	80
ROTOR INERTIA (Kg·m ² × 10 ⁻⁷)	94
THEORETICAL ACCELERATION (rad x sec. ⁻²)	85100
BACK E.M.F. (V/Krpm)	34.7
MASS (Kg)	0.51
PROTECTION DEGREE	IP40
LEADS CODE	V



RTA MOTOR CABLE COLORS

DESCRIPTION	COLOR
CHANNEL A	GREEN
CHANNEL A-	WHITE
CHANNEL B	YELLOW
CHANNEL B-	BROWN

ENCODER PIN-OUT

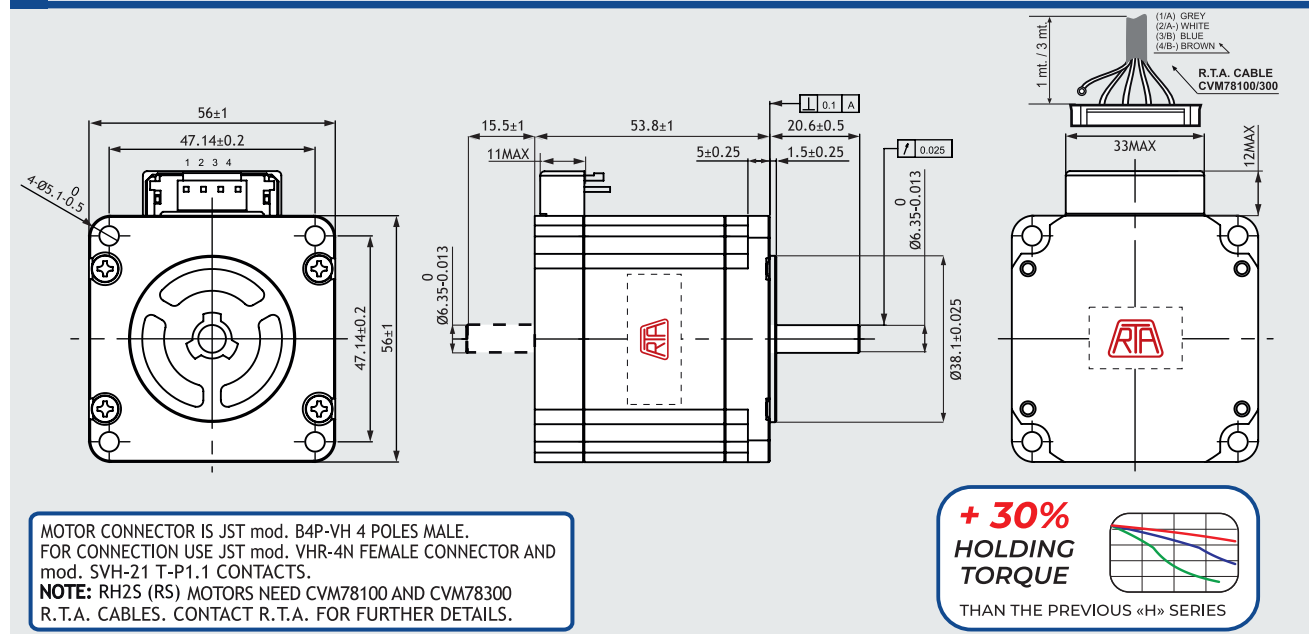
DESCRIPTION	04D0 PINS	04E0/0HE0 PINS	R.T.A. CABLE LEADS COLOR
CHANNEL A+	6	6	GREEN
CHANNEL A-	5	5	PURPLE
CHANNEL B+	8	8	BLUE
CHANNEL B-	7	7	BROWN
+ DC (5V)	2	2	RED
GROUND	3	3	BLACK
INDEX+	/	10	ORANGE
INDEX-	/	9	WHITE

R.T.A. CABLE (30 cm) CVEPA0D0M3 CVEPAZD0M3

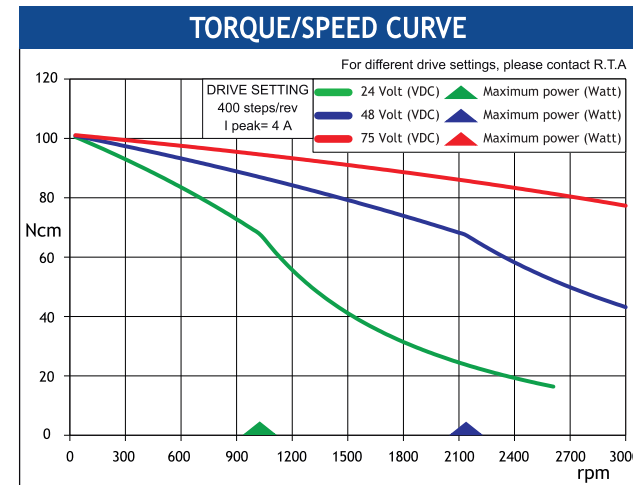
Suggested R.T.A. drive series: BSD, CSD, FLEX-DRIVE

RH 2S1M

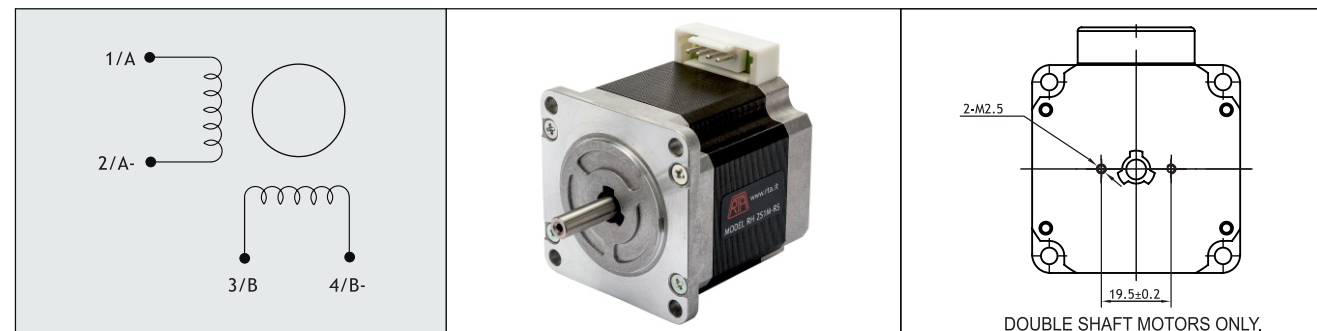
Dimensions (Unit:mm)



FEATURES	
MODEL	RH 2S1M (RH 2S1M-RS)
BASIC STEP ANGLE	1.8 ± 0.09°
BIPOLAR CURRENT	(Amp) 4.0
UNIPOLAR CURRENT	(Amp)
RESISTANCE	(Ohm) 0.37
INDUCTANCE	(mH) 1.5
BIPOLAR HOLDING TORQUE	(Ncm) 140
ROTOR INERTIA	(Kgm ² x 10 ⁻⁷) 280
THEORETICAL ACCELERATION	(rad x sec. ⁻²) 50000
BACK E.M.F.	(V/Krpm) 35
MASS	(Kg) 0.69
INTERNATIONAL STANDARDS	UL, CSA
PROTECTION DEGREE	IP40
LEADS CODE	V



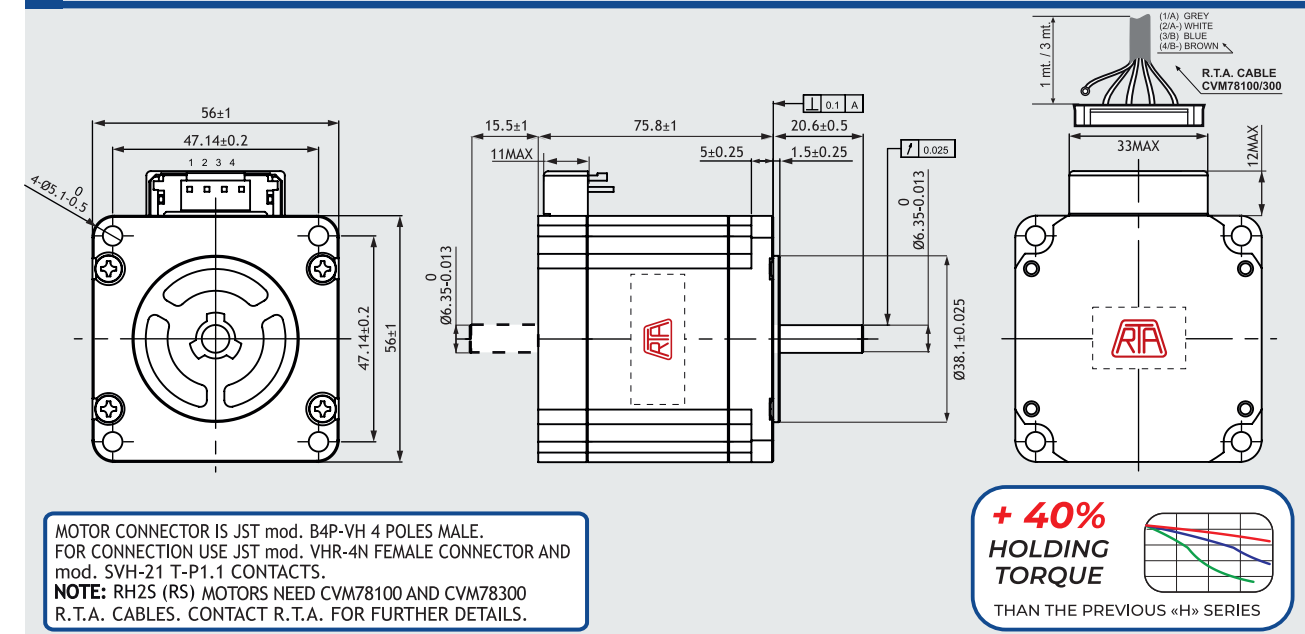
Codes between brackets refer to double shaft models.



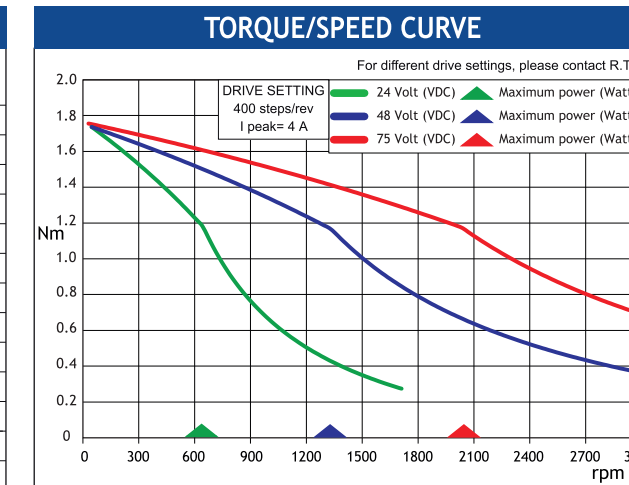
Suggested R.T.A. drive series: BSD, CSD, FLEX-DRIVE, NDC

RH 2S2M

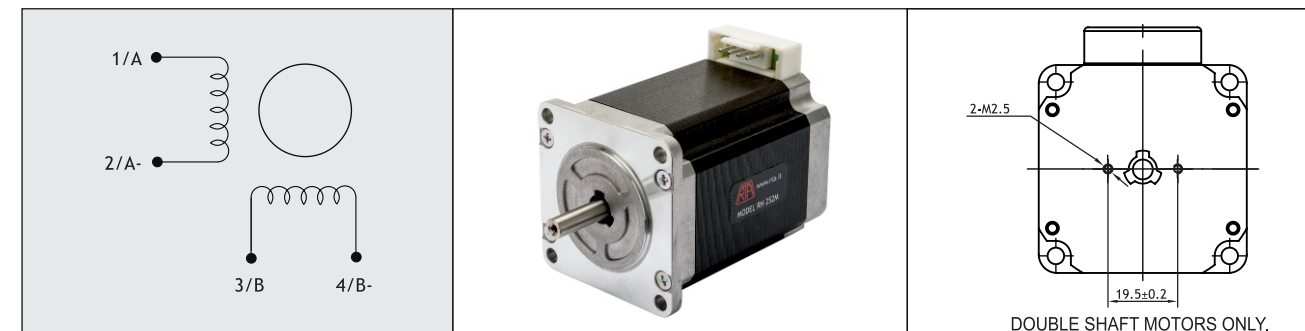
Dimensions (Unit:mm)



FEATURES	
MODEL	RH 2S2M (RH 2S2M-RS)
BASIC STEP ANGLE	1.8 ± 0.09°
BIPOLAR CURRENT	(Amp) 4.0
UNIPOLAR CURRENT	(Amp)
RESISTANCE	(Ohm) 0.52
INDUCTANCE	(mH) 2.4
BIPOLAR HOLDING TORQUE	(Ncm) 235
ROTOR INERTIA	(Kgm ² x 10 ⁻⁷) 500
THEORETICAL ACCELERATION	(rad x sec. ⁻²) 47000
BACK E.M.F.	(V/Krpm) 58.7
MASS	(Kg) 1.1
INTERNATIONAL STANDARDS	UL, CSA
PROTECTION DEGREE	IP40
LEADS CODE	V



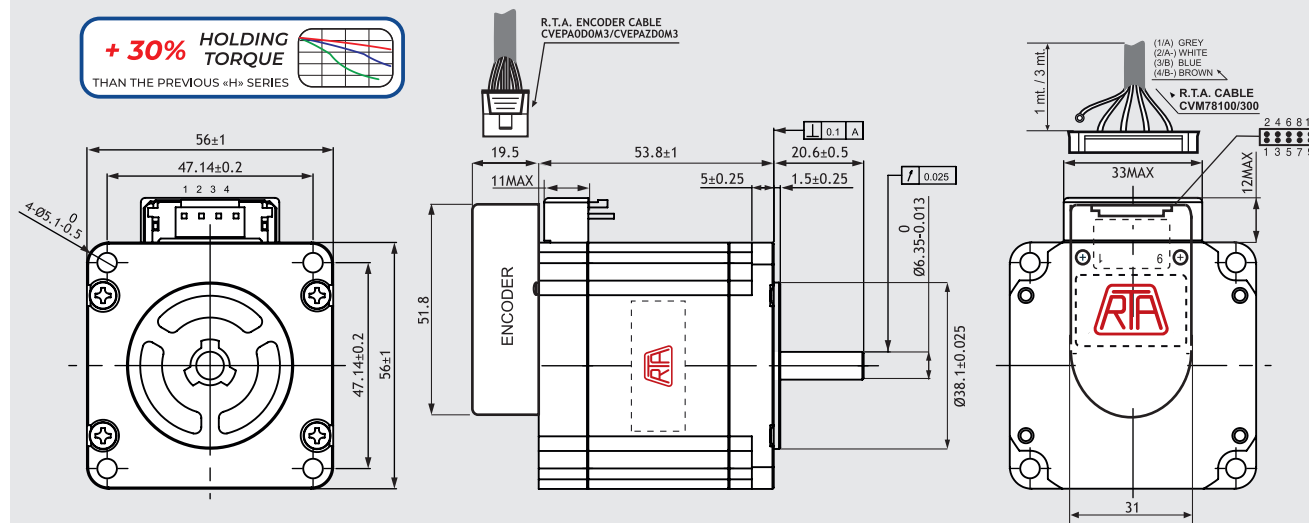
Codes between brackets refer to double shaft models.



Suggested R.T.A. drive series: BSD, CSD, FLEX-DRIVE, NDC

RH 2S1M-0XX0

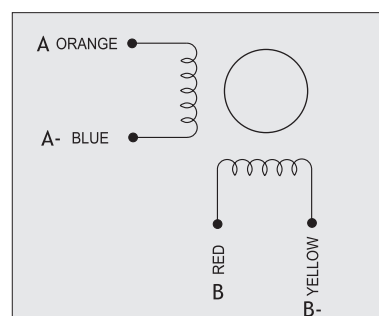
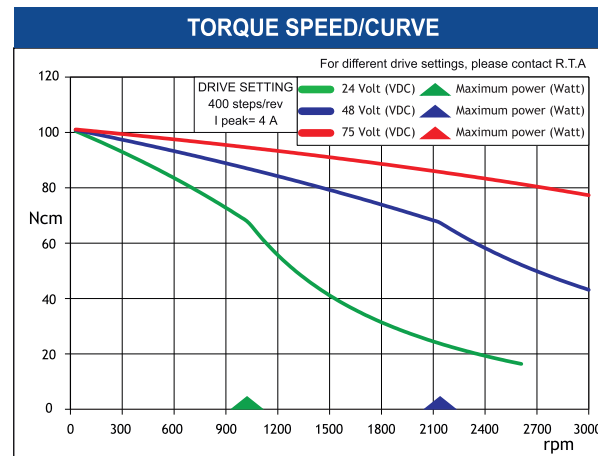
Dimensions (Unit:mm)



ENCODER OPTIONS:	RH 2S1M-04D0	RH 2S1M-04E0	RH 2S1M-0HE0
RESOLUTION	400 cpr	400 cpr	4000 cpr
INDEX	No	Yes	Yes
CURRENT CONSUMPTION (mA)	50	50	85
HIGH LEVEL OUTPUT (Volt)	5 (TIP) - 4.75 (MIN) (I _{max} =25mA)	3.4 (TIP) - 2.4 (MIN) (I _{max} =20mA)	3.4 (TIP) - 2.4 (MIN) (I _{max} =20mA)
LOW LEVEL OUTPUT (Volt)	0.25 (TIP) - 0.6 (MAX) (I _{max} =25mA)	0.2 (TIP) - 0.4 (MAX) (I _{max} =20mA)	0.2 (TIP) - 0.4 (MAX) (I _{max} =20mA)
OUTPUT SIGNAL	Differential	Differential	Differential
MAXIMUM FREQUENCY (KHz)	100	100	720
POWER SUPPLY VOLTAGE (Volt)	5 V _{DC} ± 10%	5 V _{DC} ± 10%	5 V _{DC} ± 10%

ENCODER NEEDS CVEPA0D0M3 OR CVEPAZD0M3 R.T.A. CABLE. CONTACT R.T.A. FOR FURTHER DETAILS

FEATURES		RH 2S1M-0XX0
MODEL		RH 2S1M-0XX0
BASIC STEP ANGLE		1.8 ± 0.09°
BIPOLAR CURRENT	(Amp)	4.0
UNIPOLAR CURRENT	(Amp)	
RESISTANCE	(Ohm)	0.37
INDUCTANCE	(mH)	1.5
BIPOLAR HOLDING TORQUE	(Ncm)	140
UNIPOLAR HOLDING TORQUE	(Ncm)	
ROTOR INERTIA	(Kg·m ² × 10 ⁻⁷)	280
THEORETICAL ACCELERATION	(rad x sec. ⁻²)	50000
BACK E.M.F.	(V/Krpm)	35
MASS	(Kg)	0.69
PROTECTION DEGREE		IP40
LEADS CODE		V

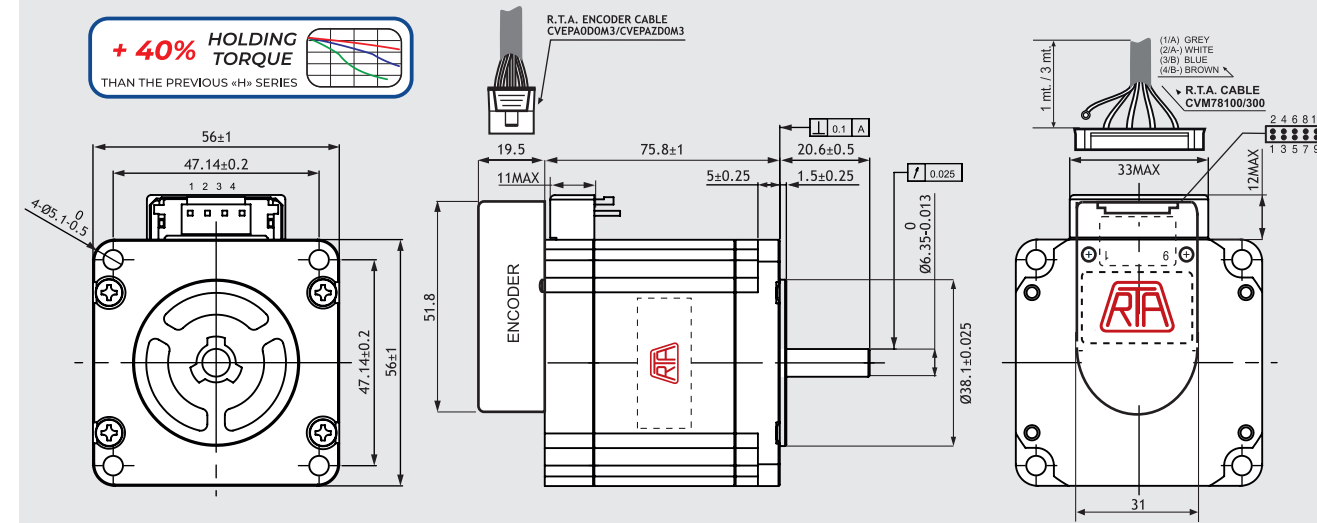


DESCRIPTION	ENCODER PIN-OUT			R.T.A. CABLE LEADS COLOR
	04D0 PINS	04E0 PINS	0HE0 PINS	
CHANNEL A+	6	6	6	GREEN
CHANNEL A-	5	5	5	PURPLE
CHANNEL B+	8	8	8	BLUE
CHANNEL B-	7	7	7	BROWN
+ DC (5V)	2	2	2	RED
GROUND	3	3	3	BLACK
INDEX+	/	10	10	ORANGE
INDEX-	/	9	9	WHITE

Suggested R.T.A. drive series: BSD, CSD, FLEX-DRIVE, NDC

RH 2S2M-0XX0

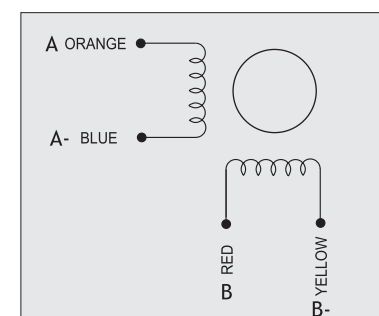
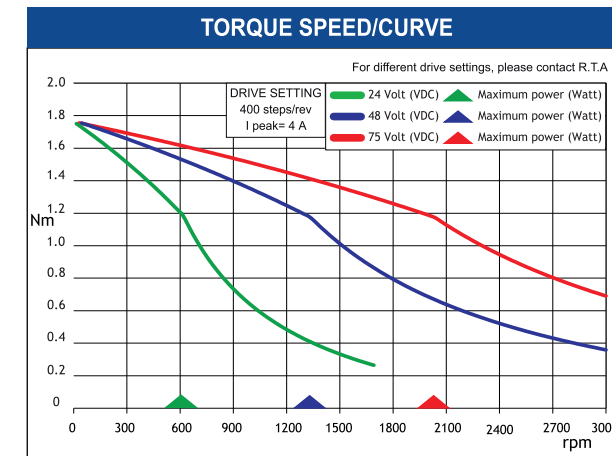
Dimensions (Unit:mm)



ENCODER OPTIONS:	RH 2S2M-04D0	RH 2S2M-04E0	RH 2S2M-0HE0
RESOLUTION	400 cpr	400 cpr	4000 cpr
INDEX	No	Yes	Yes
CURRENT CONSUMPTION (mA)	50	50	85
HIGH LEVEL OUTPUT (Volt)	5 (TIP) - 4.75 (MIN) (I _{max} =25mA)	3.4 (TIP) - 2.4 (MIN) (I _{max} =20mA)	3.4 (TIP) - 2.4 (MIN) (I _{max} =20mA)
LOW LEVEL OUTPUT (Volt)	0.25 (TIP) - 0.6 (MAX) (I _{max} =25mA)	0.2 (TIP) - 0.4 (MAX) (I _{max} =20mA)	0.2 (TIP) - 0.4 (MAX) (I _{max} =20mA)
OUTPUT SIGNAL	Differential	Differential	Differential
MAXIMUM FREQUENCY (KHz)	100	100	720
POWER SUPPLY VOLTAGE (Volt)	5 V _{DC} ± 10%	5 V _{DC} ± 10%	5 V _{DC} ± 10%

ENCODER NEEDS CVEPA0D0M3 OR CVEPAZD0M3 R.T.A. CABLE. CONTACT R.T.A. FOR FURTHER DETAILS

FEATURES		RH 2S2M-0XX0
MODEL		RH 2S2M-0XX0
BASIC STEP ANGLE		1.8 ± 0.09°
BIPOLAR CURRENT	(Amp)	4.0
UNIPOLAR CURRENT	(Amp)	
RESISTANCE	(Ohm)	0.52
INDUCTANCE	(mH)	2.4
BIPOLAR HOLDING TORQUE	(Ncm)	235
UNIPOLAR HOLDING TORQUE	(Ncm)	
ROTOR INERTIA	(Kg·m ² × 10 ⁻⁷)	500
THEORETICAL ACCELERATION	(rad x sec. ⁻²)	47000
BACK E.M.F.	(V/Krpm)	58.7
MASS	(Kg)	1.1
PROTECTION DEGREE		IP40
LEADS CODE		V



DESCRIPTION	ENCODER PIN-OUT			R.T.A. CABLE LEADS COLOR
	04D0 PINS	04E0 PINS	0HE0 PINS	
CHANNEL A+	6	6	6	GREEN
CHANNEL A-	5	5	5	PURPLE
CHANNEL B+	8	8	8	BLUE
CHANNEL B-	7	7	7	BROWN
+ DC (5V)	2	2	2	RED
GROUND	3	3	3	BLACK
INDEX+	/	10	10	ORANGE
INDEX-	/	9	9	WHITE

Suggested R.T.A. drive series: BSD, CSD, FLEX-DRIVE, NDC

STEPPING MOTORS ACCESSORIES

FRONT BRAKES



FB-M12-17-02-00000

FRONT BRAKES

M12
CONNECTOR

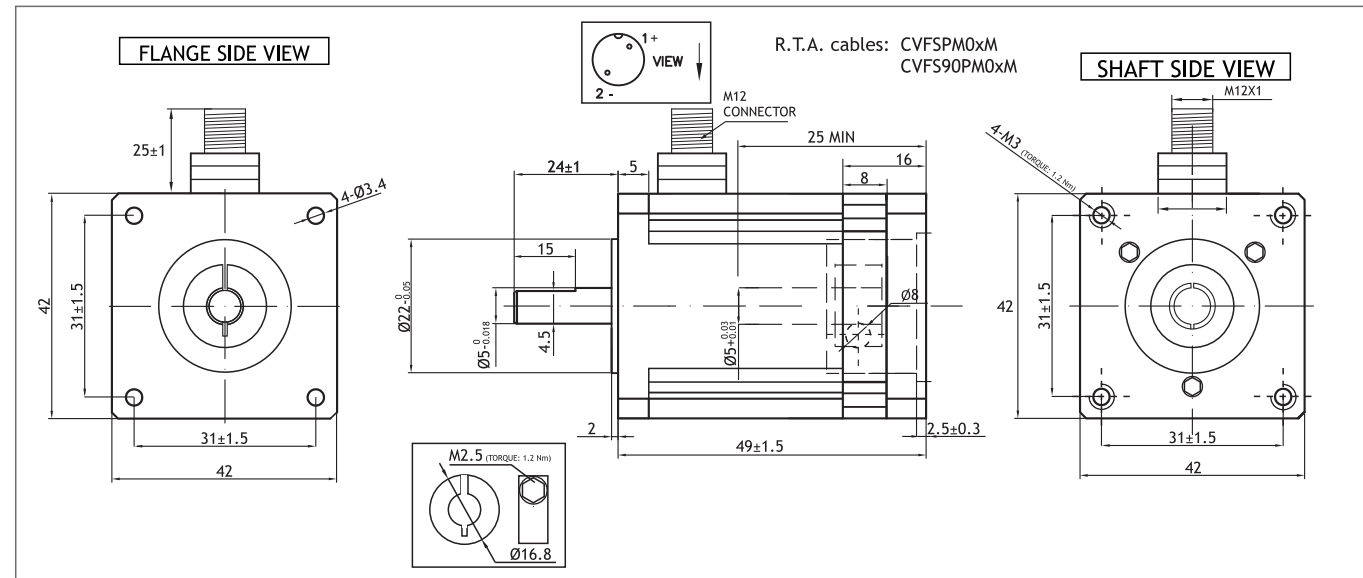
24 VDC

NEMA 17



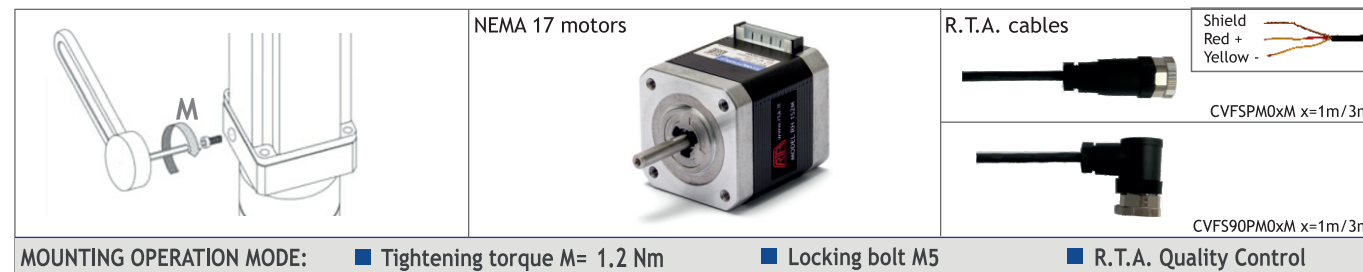
SCAN THE QR CODE
TO WATCH A VIDEO
ON FB SERIES
FRONT BRAKES

Dimensions (Units:mm)



MODEL	Static torque (Nm)	Current (mA)	Voltage (V)	Power (W)	Mass (Kg)
FB-M12-17-02-00000	0.2	170	24 VDC	4.1	0.27

Suggested motors and cables



CAUTION Use for safety related functions is forbidden (EN 60204-1). Moreover, when the application arrangement is in such way that a brake fault or failure could generate a risk for property or human life, external independent safety protection system must be provided in the machine.

FB-M12-23-08-00000

FRONT BRAKES

M12
CONNECTOR

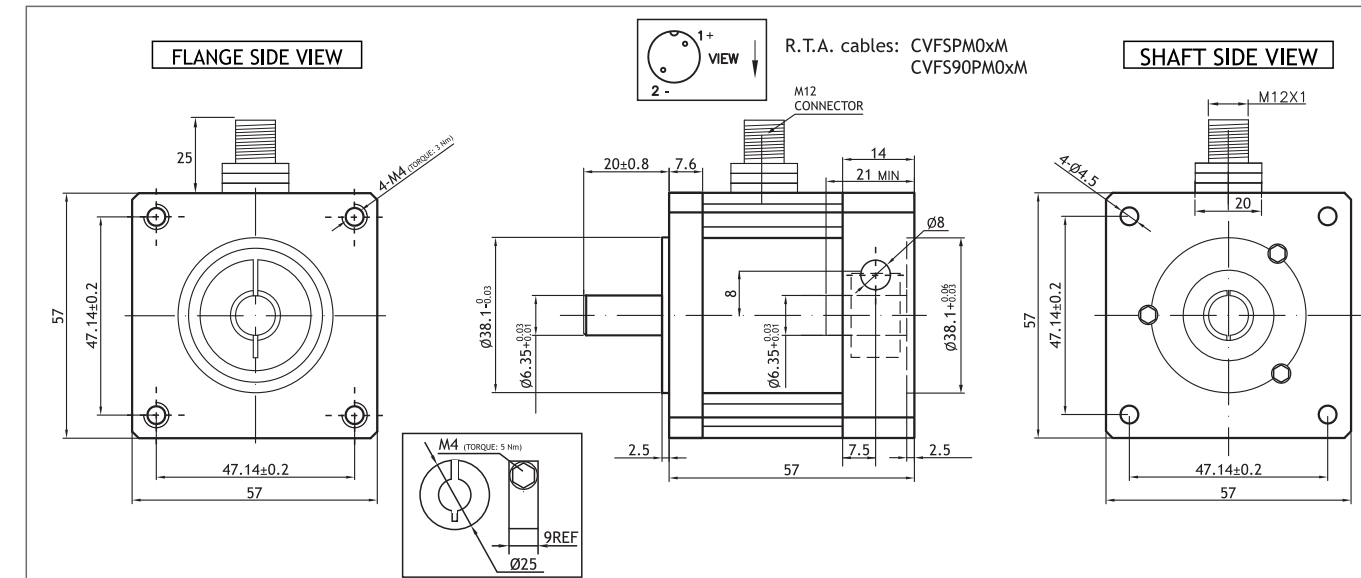
24 VDC

NEMA 23



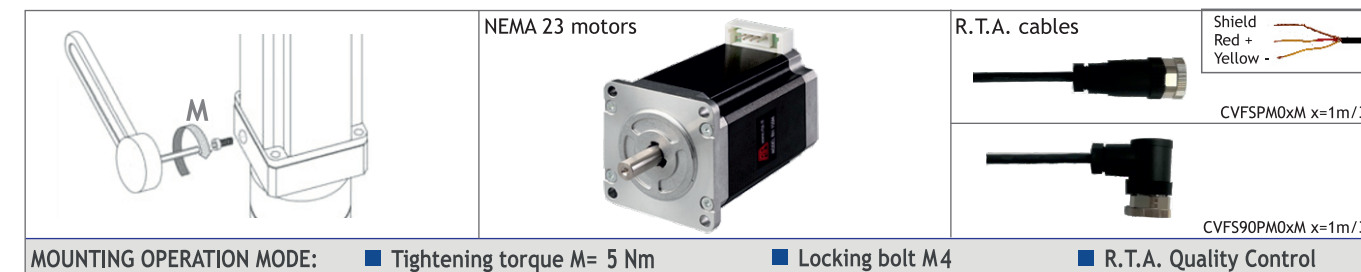
SCAN THE QR CODE
TO WATCH A VIDEO
ON FB SERIES
FRONT BRAKES

Dimensions (Units:mm)

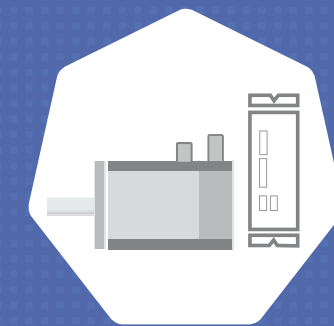


MODEL	Static torque (Nm)	Current (mA)	Voltage (V)	Power (W)	Mass (Kg)
FB-M12-23-08-00000	0.8	340	24 VDC	8.1	0.63

Suggested motors and cables



CAUTION Use for safety related functions is forbidden (EN 60204-1). Moreover, when the application arrangement is in such way that a brake fault or failure could generate a risk for property or human life, external independent safety protection system must be provided in the machine.

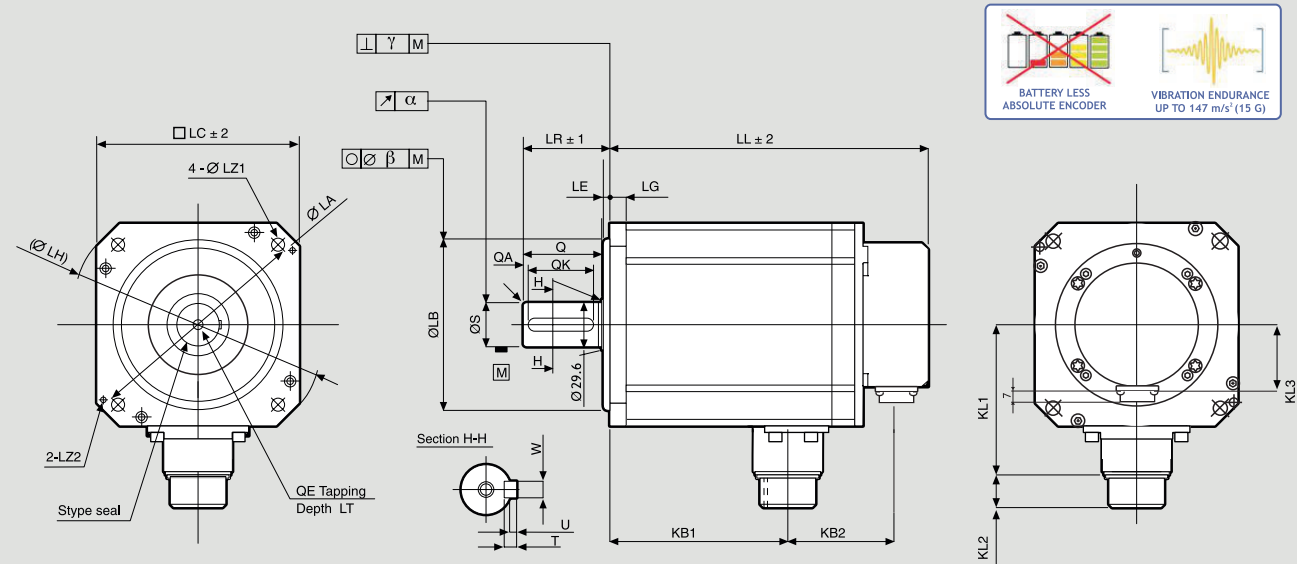


SERVO SYSTEMS



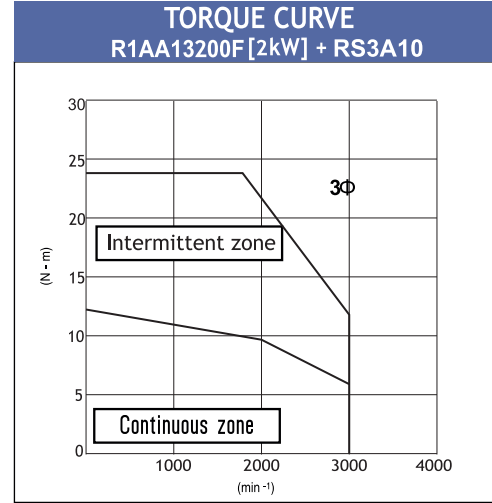
R2AA13200LXROOM (R2AA13200LCROOM)

Dimensions (Unit:mm)



without brake	with brake	KL1	KL2	KL3	LG	LA	LB	LE	LH	LC	LZ1	LZ2	LR	S	Q	QA	QK	W	T	U	KB1	QE	LT					
LL	KB2	LL	KB2																									
171	57	216	103	98	21	38	12	145	0	110-0.035	4	165	130	9	M6	55	0	28-0.013	50	3	42	0	8-0.036	7	3	99	M8	25

FEATURES	
MODEL	R1AA13200LXROOM
NOMINAL POWER	(W) 2000
NOMINAL SPEED	(rpm) 2000
MAXIMUM SPEED	(rpm) 3000
NOMINAL TORQUE	(Nm) 9.5
STALL TORQUE	(Nm) 12
MAXIMUM TORQUE	(Nm) 24
INERTIA	(Kg*m²) 12.2 × 10 ⁻⁴
ENCODER	(imp./rev) SINGLE TURN: 131072 imp/rev (17 bit) MULTI TURN: 65536 turns (16 bit)
PROTECTION DEGREE	IP65
WEIGHT	[version with brake] (Kg) 10 (12)



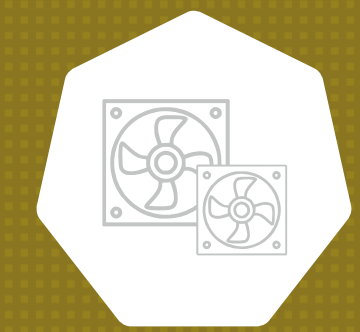
R.T.A. s.r.l. PAVIA (ITALY) SANYO DENKI CO., Ltd (JAPAN)



Indicated performances refer to motor controlled by related new RS3 standard and EtherCat amplifiers.
3Φ = torque curve with three-phase power supply



Suggested amplifiers: RS3A05A0AA2, RS3A05A2HA4W00



COOLING FANS



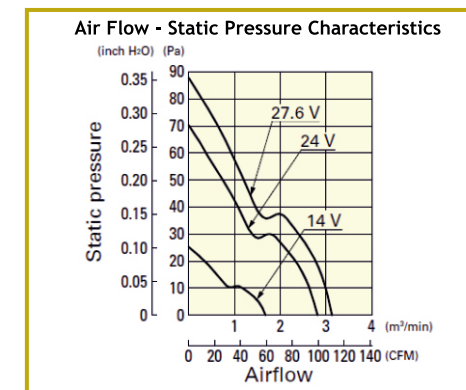
120x120x38 mm **24 V**



General Specifications

- **Material:**
- Frame: Plastics (Flammability: UL 94V-0)
- Impeller: Plastics (Flammability: UL 94V-1)
- **Expected Life:** 40,000 h (L10:Survival rate: 90% at 60 °C, rated voltage, and continuously run in a free air state)
- **Lead Wire:** ● red ● black or blue
- **Storage Temperature:** -30 °C to +70 °C (Non-condensing)
- **Ball bearings**
- **International Standards:** UL/CSA, TÜV, RoHS

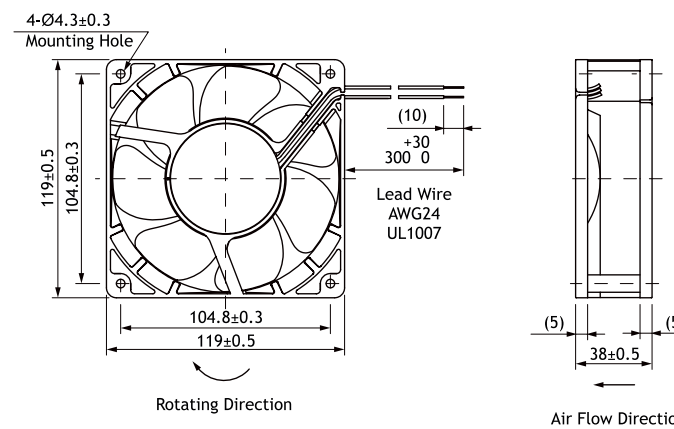
Air Flow - Static Pressure Characteristics



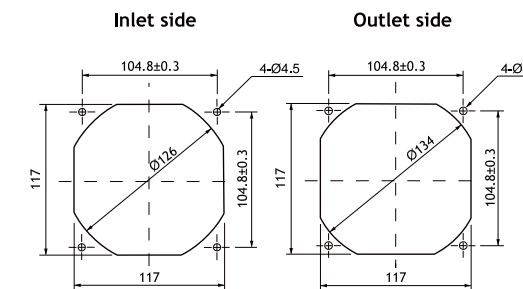
Specifications

Model No.	Rated Voltage [V]	Operating Voltage Range [V]	Rated Current [A]	Rated Input [W]	Rated Speed [min ⁻¹]	Max. Air Flow [m ³ /min] [CFM]	Max. Static Pressure [Pa] [inchH ₂ O]	SPL [dB(A)]	Operating Temperature [°C]	Expected Life [h]
9G1224H102	24	14.0 to 27.6	0.22	5.28	2,600	2.8 99	70.4 0.283	39	-20 to +70	40,000/60*

Dimensions (Unit:mm)



Reference dimension of mounting holes and vent opening (Unit: mm)



120

mm sq.

- Model always available on stock at R.T.A.
- Also available for online purchasing at www.rta-store.com