MOTEC®

Product Family

ARES DC SERVO SYSTEM

Catalogue

MOTEC®

ARES Series DC Servo System

MOTEC(China) Group consists with four high-tech companies and ten regional sales&marketing companies dedicated to four major industrial fields as below

1、MOTEC DC/AC intelligent stepper system and intelligent servo sysytem

1.1 MOTEC AC intelligent servo driver is an innovated product which integrated traditional servo driver, montion controller and PLC. It allow users to build up reliable motion control system easily with its integrated LadderLogic programing function. All MOTEC AC intelligent servo drivers are CE and ROHS compliant.

1.2 MOTEC DC intelligent servo system provides wide range motor selection from 12.5VDC to 180VD(brush motor and brushless motor) with up to 200A working current.

All the drivers are CE and ROHS compliant and various of communication buses are available.

1.3. 2-Phase / 3-Phase stepper system has standard and intelligent models for customer' choice. MOTEC steppers products have been widely used in many industries including military applications.

1.4. MOTEC coreless servo system provide wide range motors for customer's choice from 4w to 250w (brush motor and mrushless motro). With its 80Khz chopping freqgency, MOTEC corless servo driver can achieve excellent performances working with Maxon or Fauhaber coreless motors. MOTEC intelligent coreless servo driver is available with integrated motion controller and communication bus features.

1.5. MOTEC can design and manufacture customized servo&stepper system for customers from various industrial where general servo and stepper systems cannot meet customer's requirements, ie servo and stepper driver for laser cutting machine and engraving machine, customized designed stepper and servo system for medical and military industrial, which require high level protection features. MOTEC has achieved a IP portfolio of various of invention patents, utility models and software copyrights over the years.

1.6. EM servo electric cylinder is MOTEC's patent products devleoped by its mechatronics R&D team and it has been widely used in aviation,military and civilian industries with its high reliability, high perfromances and value for money features. EM60, EM80, EM110 and EM150 are modeles designed for civilian applications.

2. MOTEC planetary gearbox has been servicing customer for nearly 10 years and tens of thousands of them have been used in differernt applications working with MOTEC stepper and servo products and proved its reliability and performances.

3. MOTEC multi-chanel CNC and standalone motion controller/card, with its excellent high response feature, have been sucessfully applied in various of industries across China and the world.

4. MOTEC cartesian robot is another masterpiece product developed by MOTEC R&D team. Currently MOTEC cartesian robot products has a sale volume of approximately 100 per annum.

MOTEC is a high-tech company with professional staff working in its motion control, stepper and servo driver, mechanical R&D teams. MOTEC takes its customers and employees as its valuable treasure and MOTEC believes the real value of the company is to achieve customers satisfactory and its employee's satisfactory as well.

The final goal of MOTEC is to become a True Value Implementer in motion control industrial in China, and the world.

MOTEC Group (China)

ARES Series DC Servo System

MOTEC® ARES Series DC Servo System

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MOTEC® DC Servo System

ARES Series DC Servo System Introduction

ARES series DC servo system is an indepently delveoped intelligent servo system features integrated servo driver, motion controller and optional PLC function. It can be easily controlled by PC, Touch Panel, PLC or third party controllers via various communication mode. ARES DC intelligent servo system is a value for money products with high power density and ambundant control features & functions.

- Integraded servo driver, motion controller and PLC
- Ladder diagram programming
- Support MOTECIAN, MODBUS, CANOPEN
- Support RS232,RS485,CAN BUS
- Support serial magnetic encoder and 2500 PPR incremental encoder
- Instruction set and DLL library available
- Network control mode, pulse control mode, analog control mode, PLC mode.

(For more details please refer to user's manual)

Serial Magnetic Encoder is a quadrature encoder developed by MOTEC(China) based on RS485 communication protocal with 2.5MBPS data transfer rate and 16384 pulse per turn resolution。It has been widely accepted because of its simple connection, high reliability and high resolution features. The size of motors can be further reduced if necessary.

Resolver is an analog electromagnetic transducer and the electrical outputs are continuous through one complete mechanical revolution, the devices offer infinite theoretical resolution. With its simple transformer design and lack of any on board electronics, resolver is much more rugged than almost any other type of feedback device, making it the natural choice for harsh environments involving temperature extremes, high shock and vibration, elevated radiation levels, and contaminants such as dirt, grease, and oil.

All MOTEC DC servo motors can be ordered with resolver as feedback device. The working temperature of standard motors is -20℃ to 40℃ but motors with -40℃~55℃ working temperature are available for order. MOTEC DC servo motors are equipped with aviation connectors which enable MOTEC DC servo motors to be able to work in very harsh natural environment.

Absolute encoder is optional for MOTEC DC servo motors and standard DC servo motor can be ordered with 17bits absolute encoder option. The 17bits encoder can memorize position of a motor rotor when it losts its power supply (limit to 215). There is a battery in the encoder and needs to be replaced periodically.

ARES Series DC Servo System Introduction

MOTEC® ARES DC Intelligent Servo System

ARES DC Servo System is the latest intelliegent servo system developed by MOTEC (China) with independent intellectual property rights. It is an integrated product of servo driver, motion controller and PLC (optional), which can be easily controlled by PC, touch panel, PLC and other controllers via various of communication mode.

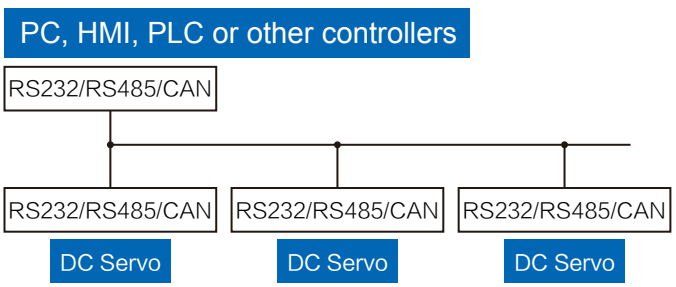
ARES DC intelligent servo system comes with MOTEC DSEM-V series servo motor and supports MOTECIAN (MOTEC standard communication bus protocals) , MODBUS and CANOPEN. MOTEC provides INSTRUCTIONS SET and DLL LIBRARY alllowing users to build their applications easily.

Functions

- Benefit from its integrated features, ARES DC intelligent servos system allow users to manage servo dirver, motion controller and PLC (support ladder diagram programming) within one product to achieve simple, reliable and powerful servo control system.
- Support RS232、RS485 and CAN Buses. Support MOTECIAN、MODBUS and CANOPEN protocals.
- S-curve and T-curve velocity generation functions. Continuing multi-phase motion control under T-curve function.
- Support multiple control mode including Network Mode, Pulse&Direction and CW/CCW Mode, PLC Mode(optional).
- Support multiple operational mode including Position Mode, Speed Mode, Analog Mode and Current (Torque) Mode.
- Support real-time switching between modes at stationary status.Support real-time switching between multiple gain control settings and multiple speed monitoring settings, resulting high system response while no influence to stability performance.
- MotionLib and Instruction Set allow users to programe host control station software quickly.
- Internal temperature protection, overcurrent protection, overvoltage protection, undervoltage protection, out oftolerance position protection, out of tolerance speed protection, I²T current protection, etc.

Communication

Three communication modes are avaliable for ARES DC Servo System. Users can select any one of the three modes to build their own multi-points montion control applications. RS232 was designed for point to point communication but it has been renovated by MOTEC to suite multi-points communications.



MOTECIAN

MOTECIAN is a protocal developed by MOTEC and it can run through USB, RS232, RS485 and CAN Bus interfaces. We recommend MOTECIAN if users intend to develope their own host control applications.

MODBUS

MODBUS protocal can be used to link ARES DC Servo system with HMI, PC or any other Host Controller supporting MODBUS through RS232 or RS485 interfaces.

CANOPEN

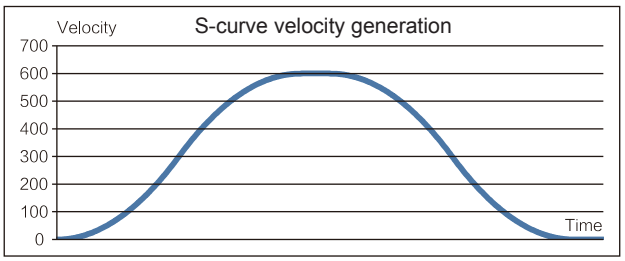
CANOPEN protocal can be used in CAN BUS communications and CiA DS-301 and CiA DS-402 protocals are supported. Users can establish communication with ARES DC servo system under PDO or SDO mode. MOTEC dedicated channel is also available for customer's conveniences.

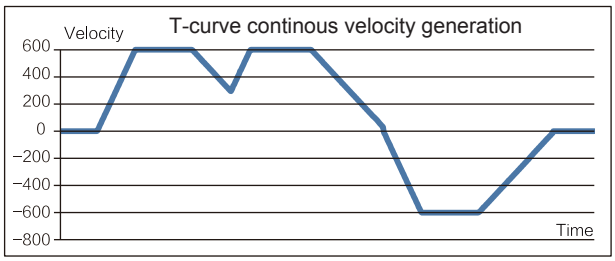
MOTEC® DC Servo System

ARES Series DC Servo System Introduction

Velocity Generation

S-curve and T-curve velocity generation are standard function modules in MOTEC DC servo system. Users can select one from the two modes based on the actual needs in their applications, ie for position control purpose or speed control purpose. The two modes are both available for position control purpose but only T-curve is available when MOTEC DC servo system is used to do speed control. Both of the two modes can be used to do point to point motion control and position set value can be adjusted reguarlly or irregularly during the motion process.Under T-curve mode, motors' maximum speed and accelaration speed (positive or negative) can be adjusted and applied immediately.



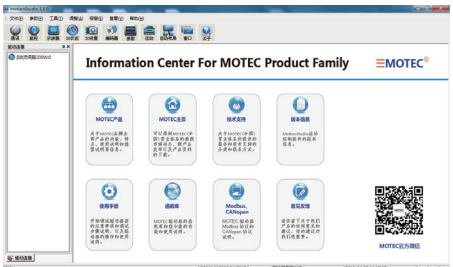


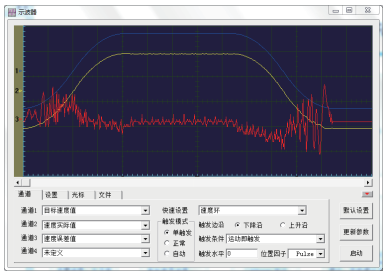
Configuration Software

MotionStudio is a PC based configuration software which can do real time servo motor control, servo parameter setting and debugging via USB/RS232/485 interfaces. Users can easily get their parameter setting and debugging jobs done benefit from MotionStudio's graphic user interface and its powerful oscilloscope function.

Main Functions

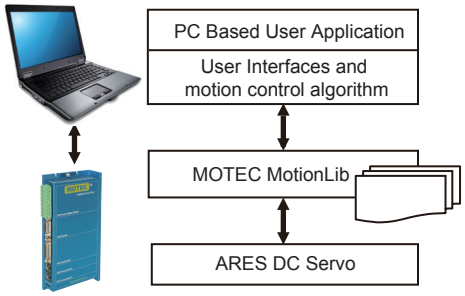
- Monitoring servo driver status
- Servo driver parameters setting
- Monitoring through oscilloscope. Curve data savable.
- Motion control parameters setting
- I/O ports setting and monitoring
- Position, Speed, Current operation mode setting





Library

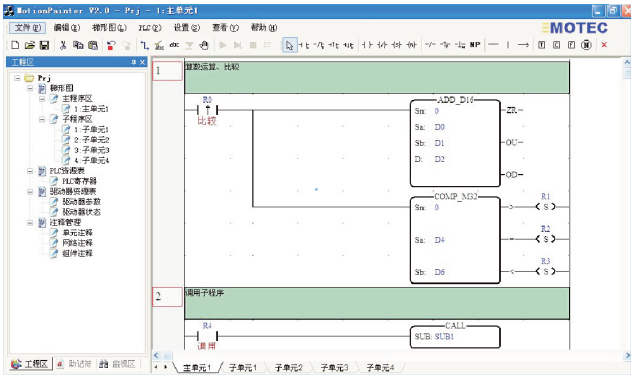
MotionLib provides affluent library functions to ARES Servo System users for their host control programming purposes. Users can easily develope their own PC based appliaction controlling mutliple MOTEC intelligent servo units via RS485 network without worrying about lower level serial ports operations.

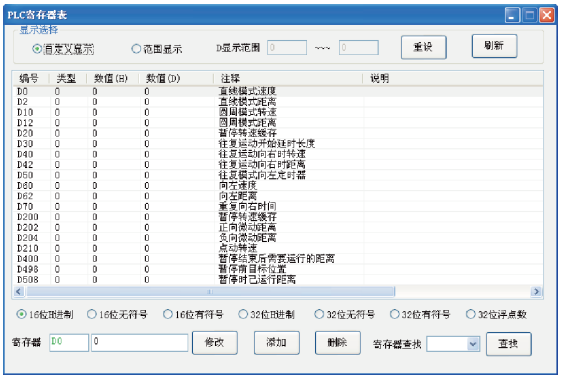


ARES Series DC Servo System Introduction

PLC (optional)

ARES DC Intelligent Servo System has an integrated PLC function. Users can programe their PLC application using MotionPainter, which is a ladder diagram programming software developed by MOTEC. There is ambudant RELAY and REGISTER resources enable users to build up motion control appliactions flexibly without external motion controller. The benefit from this innovation is not only the saved hardware costs but also the improved system reliability and maintainability.



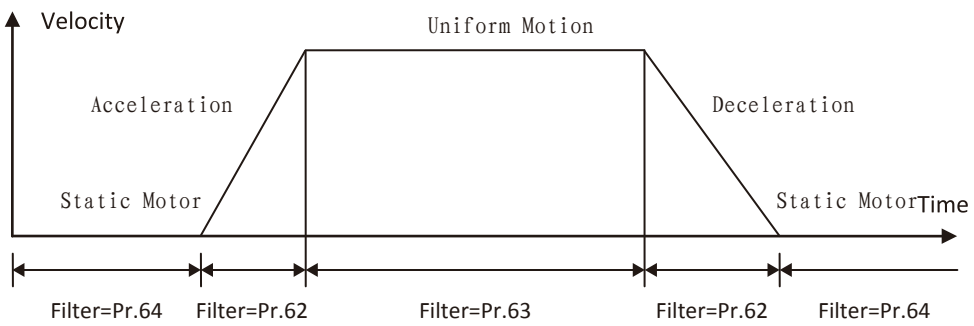


Real-time Gain Control Switching

- Switching between three sets of gain control settings.
- Switching can be done in any circumstances without causing vibration.
- The speed of switching process can be controlled by gain control switching filter settings.
- Three gain control switching modes for customer's choice.

Speed Monitor

To achieve best motor performance under different motion status, ARES DC servo system provides three speed monitoring parameters Pr.62, Pr.63 and Pr.64 which applied to acceleration&deceleration motion process, uniform motion process and static status respectively.



Speed Monitoring Parameters in different motion status

MOTEC® DC Servo System

ARES DC Servo Driver Features

MOTEC® ARES DC Servo System Features

Specs	Power Supply		18VDC~80VDC
	Max continue current		15A，20A
	Enviroment	Temperature	Working Temperature:-10℃~50℃；Storage Temperature:-40℃～85℃
		Humidity	20%~85%RH without condensation (working and storage)
		Vibration	Below 5G; 10HZ~60HZ
	Methodology of Control		PWM Chopping Control
	Encoder		Serial magnetic encoder,2500 PPR incremental encoder,Resolver and 17bits Absolute Encoder
	Communication ★	RS232	1:8 communication，support MOTECIAN、MODBUS
		RS485	1:31communication，support MOTECIAN、MODBUS
		CAN	1:110communication，support MOTECIAN、CANOPEN
	Position Loop Frequency		5KHZ
	Speed Loop Frequency		5KHZ
	Current Loop Frequency		10KHZ
	Input / Output		8 optoelectronic isolated DI (2 pluse&direction), 3 optoelectronic isolated DO
	Pulse Signal		Pulse/Direction and CW/CCW
	Analog Signal		One ±10V Analog Input
Functions	Network Mode	Position Control	S-curve, acceleration, jerk, max acceleration controllable. T-curve acceleration, jerk, max jerk controllable. Position and T-curve setting can be adjusted during motion process
		Speed Control	T-curve, acceleration controllable Acceleration and jerk setting can be adjusted during motion process
		Current Control	Max limit setting available Current setting smooth filter available
	Analog Mode	Position Control	T-curve, acceleration controllable. Position setting refreshed at 1K Hz fequency Current setting smooth filter available
		Speed Control	T-curve, acceleration controllable. Position setting refreshed at 1K Hz frequency Current setting smooth filter available
		Current Control	Max limit setting available Current setting smooth filter available
	Pulse/Direction Mode	Input	Support Pulse/Direction signal and CW/CCW signal
		Voltage	+5VDC
		Frequency	800KHZ
		Electronic Gear	Frequency of instruction pulse× $\frac{\text{Fractions of Electronic Gear(1~65535)}}{\text{Numerator of Electronic Gear(1~65535)}}$ *Limited between1/1000 and 1000
		Filter	First order smooth filter available
	PLC Mode（Optional）		PLC ladder diagram programming Switching between postion control, speed control and current control when static Application can be triggered by I/O or instructions via communication network

ARES DC Servo Driver Features

MOTEC® ARES DC Servo System Features

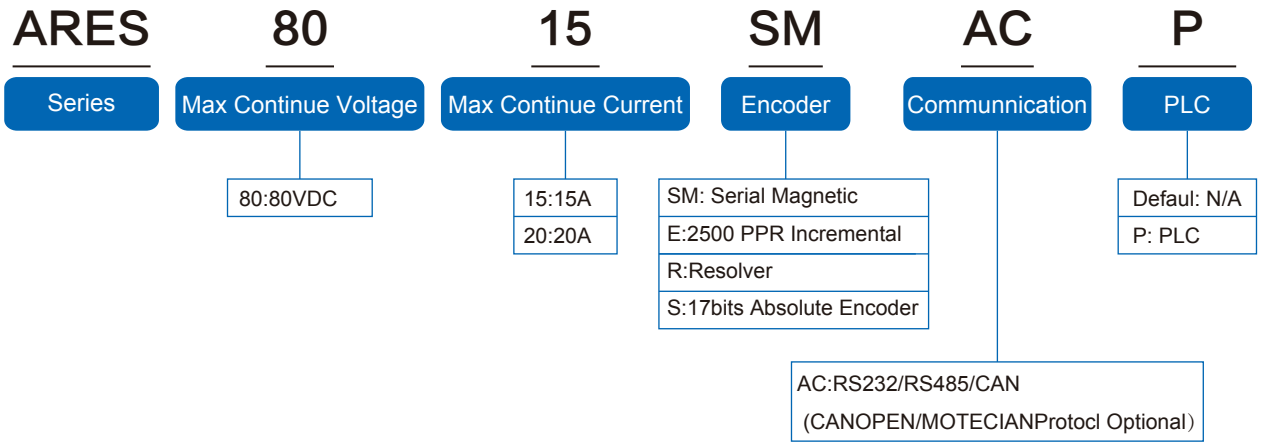
Others	Mode Switching	Switching between different control modes and operational modes without limit（static）
	Limits	Soft limits and hardware limits available
	Alarm	Overvoltage, undervoltage, temperature, I^2T, position&speed out of tolerance, peak current
	Alarm History	8 alarm hisotry available including current alarm
	Gain Control	Real-time switching between different gain control settings
	Speed Monitoring	Real-time switching between different speed monitoring parameters
	Library	Enable users to create PC based application software easily
	Encoder Output	Availabel when 2500PPR incremental encoder is used
	Dedicated Brake Interface	Dedicated motor brake interface
I/O	Functions Aailable for Input Ports	1. Motor Enable/Release 2. Clear Alarm 3. Positive Limit 4. Negative Limit 5. Positive Jog 6. Negative Jog 7. Find Home 8. Home Switch 9. Stop Motion 10. Urgent Stop 11. Pulse Stop 12. Zero Speed Clamp
	Function available for Output Ports	1. Servo Ready 2. Alram Output 3. Position Reached 4. Speed Reached 5. Current Reached 6. Brake Output 7. Zero Speed Output

★Number of units in one communication network is subjects to actual enviroment, bandrate and cable length etc.

MOTEC® DC Servo System

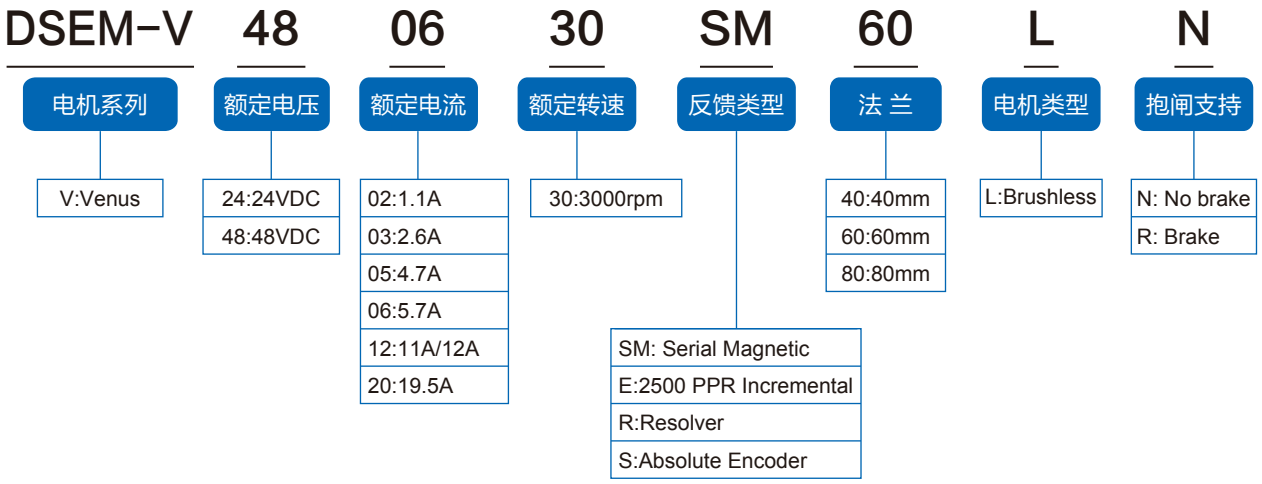
ARES DC Servo System Model Nomenclature

MOTEC® ARES DC Servo System Model Nomenclature



Note：Not all combinations are available. Please contact MOTEC sales team if you have any inquiry.

MOTEC® Venus Series DC Motor Model Nomenclature



Note: ① Not all combinations are available. Please contact MOTEC sales team if you have any inquiry.

② No magnetic encoder available for 40 size motors.

③ You need to order accessories(battery and battery box) for making cable of motors with absolute encoder.

MOTEC® ARES DC Servo Driver and Servo Motor

Voltage	Power	Rate Speed	Rated Torque	Peak Torque	Inertia (No Brake)	Matching Servo Driver	Servo Motor	Motor Encodder
V	W	rpm	Nm	Nm	Kg.cm²	Model	Model	
24	200	3000	0.64	1.91	0.175	ARES8015-SM-AC	DSEM-V241230SM60L*	Serial Magnetic Encoder
48	200	3000	0.64	1.91	0.175	ARES8015-SM-AC	DSEM-V480630SM60L*	
48	400	3000	1.27	3.9	0.29	ARES8015-SM-AC	DSEM-V481230SM60L*	
48	750	3000	2.39	7.1	1.82	ARES8020-SM-AC	DSEM-V482030SM80L*	
24	50	3000	0.16	0.48	0.025	ARES8015-E-AC	DSEM-V240330E40L*	2500 PPR Incremental Encoder
24	100	3000	0.32	0.95	0.051	ARES8015-E-AC	DSEM-V240530E40L*	
24	200	3000	0.64	1.91	0.175	ARES8015-E-AC	DSEM-V241230E60L*	
48	50	3000	0.16	0.48	0.025	ARES8015-E-AC	DSEM-V480230E40L*	
48	100	3000	0.32	0.95	0.051	ARES8015-E-AC	DSEM-V480330E40L*	
48	200	3000	0.64	1.91	0.175	ARES8015-E-AC	DSEM-V480630E60L*	
48	400	3000	1.27	3.9	0.29	ARES8015-E-AC	DSEM-V481230E60L*	
48	750	3000	2.39	7.1	1.82	ARES8020-E-AC	DSEM-V482030E80L*	
24	50	3000	0.16	0.48	0.025	ARES8015-R-AC	DSEM-V240330R40L*	Resolver
24	100	3000	0.32	0.95	0.051	ARES8015-R-AC	DSEM-V240530R40L*	
24	200	3000	0.64	1.91	0.175	ARES8015-R-AC	DSEM-V241230R60L*	
48	50	3000	0.16	0.48	0.025	ARES8015-R-AC	DSEM-V480230R40L*	
48	100	3000	0.32	0.95	0.051	ARES8015-R-AC	DSEM-V480330R40L*	
48	200	3000	0.64	1.91	0.175	ARES8015-R-AC	DSEM-V480630R60L*	
48	400	3000	1.27	3.9	0.29	ARES8015-R-AC	DSEM-V481230R60L*	
48	750	3000	2.39	7.1	1.82	ARES8020-R-AC	DSEM-V482030R80L*	
24	50	3000	0.16	0.48	0.025	ARES8015-S-AC	DSEM-V240330S40L*	17bits Absolute Encoder
24	100	3000	0.32	0.95	0.051	ARES8015-S-AC	DSEM-V240530S40L*	
24	200	3000	0.64	1.91	0.175	ARES8015-S-AC	DSEM-V241230S60L*	
48	50	3000	0.16	0.48	0.025	ARES8015-S-AC	DSEM-V480230S40L*	
48	100	3000	0.32	0.95	0.051	ARES8015-S-AC	DSEM-V480330S40L*	
48	200	3000	0.64	1.91	0.175	ARES8015-S-AC	DSEM-V480630S60L*	
48	400	3000	1.27	3.9	0.29	ARES8015-S-AC	DSEM-V481230S60L*	
48	750	3000	2.39	7.1	1.82	ARES8020-S-AC	DSEM-V482030S80L*	

Note: Suffix '-P' of driver model, means supporting PLC function,
*=N means no brake, *=R means with brake

MOTEC® DC Servo System

ARES Series DC Servo Driver

MOTEC® ARES Series DC Servo Driver

Series	Voltage(V)	Current(A)	Feedback	Communication	PLC	Note
ARES	80	15	E/SM/R/S	AC	Optional	Peak Current 30A
	80	20	E/SM/R/S	AC	Optional	Peak Current 40A

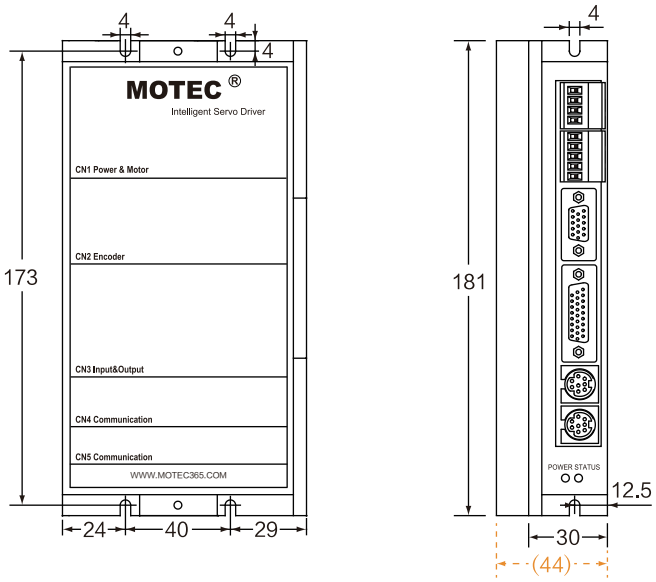
Note: **E:** 2500 ppr incremental encoder; **SM:** serial magnetic encoder, resolution16384; **R:** resolver; **S:** 17bits absolute encoder
AC: RS232/RS485/CAN(CANOPEN Protocal or MOTECIAN protocal as customer's choice)

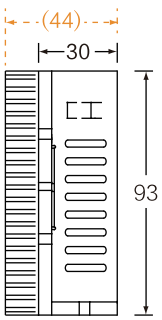
MOTEC® ARES DC Servo Driver Features

- (ARES-8015) Single Power Supply18~80VDC, Max continue current 15A
  (ARES-8020) Single Power Supply18~80VDC, Max continue current 20A
- Working Temperature: -10℃~50℃
- 8 optoelectronic isolated inputs, 3 optoelectronic isolated outputs, 1 Analog Input ±10VDC
- Position Control Mode, Speed Control Mode and Current Control Mode
- Position Control Loop and Speed Control Loop Frequency 5KHZ, Current Control Loop Frequency 10KHZ
- Support S-Curve Speed Generation and T-Curve Speed Generation and PVT mode
- Network control mode, Pulse/Direction control mode, Analog control mode and PLC control mode
- Communication RS232/RS485/CAN. RS232 network supports max 8 servo units, RS485 network supports max 31 servo units, CAN bus supports max 110 servo units with CANopen or MOTECIAN protocal
- Initial communication baud rate 115200bps (RS232 and RS485 network) and 1Mbps(CAN network)
- Support MOTECIAN、MODBUS、CANOPEN protocals, instructions set and function library available
- Support serial magnetic encoder、resolver、17bits absolute encoder and 2500 ppr incremental encoder(Encoder output is available with 2500 encoder)
- Driver temperature monitoring and dedicated motor brake port
- Integrated temperature protection, overcurrent protection, overvoltage protection, undervoltage protection, out of tolerance position protection, out of tolerance speed protection, I²T current protection, etc.

MOTEC® ARES DC Servo Driver Dimensions

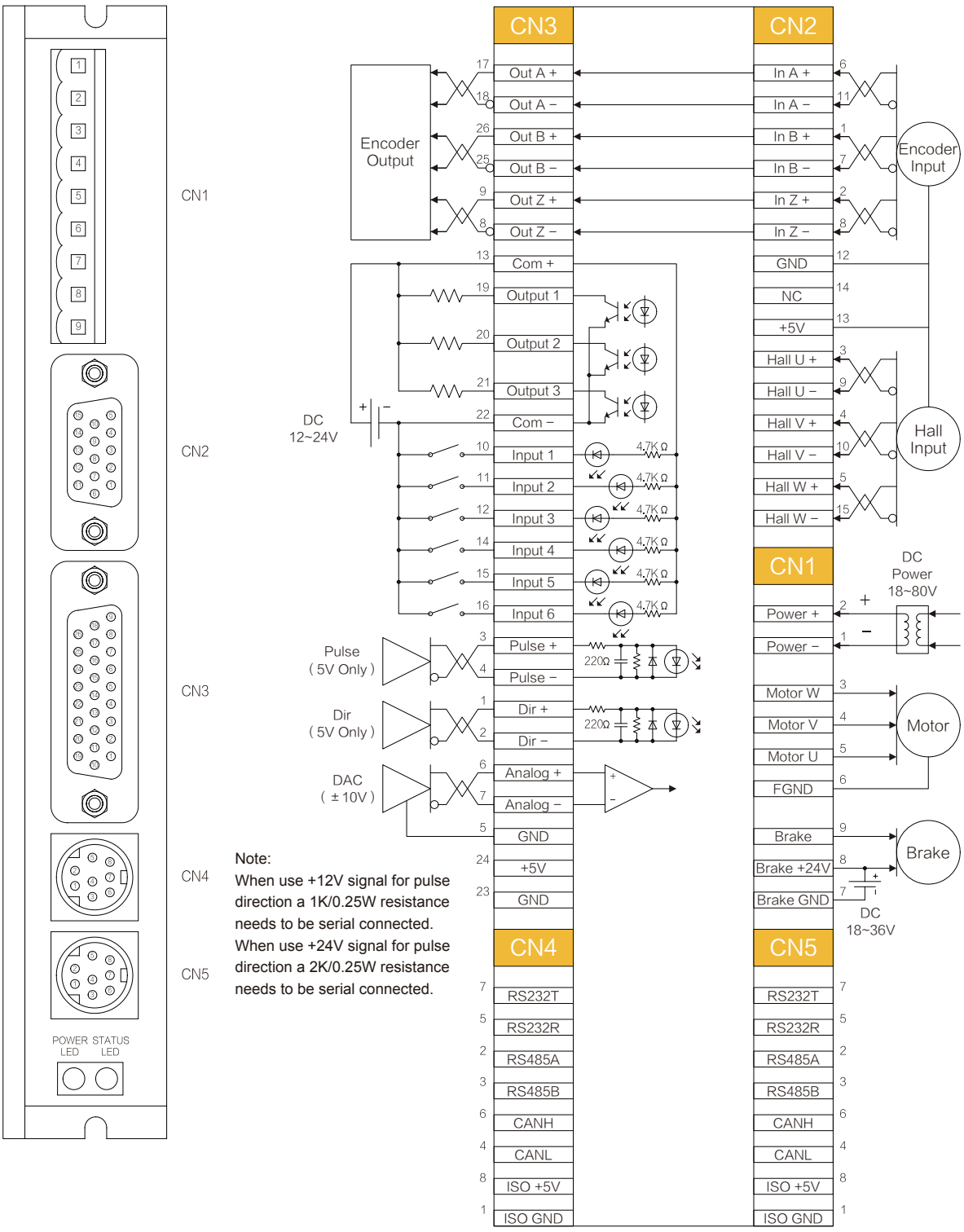
Unit: mm





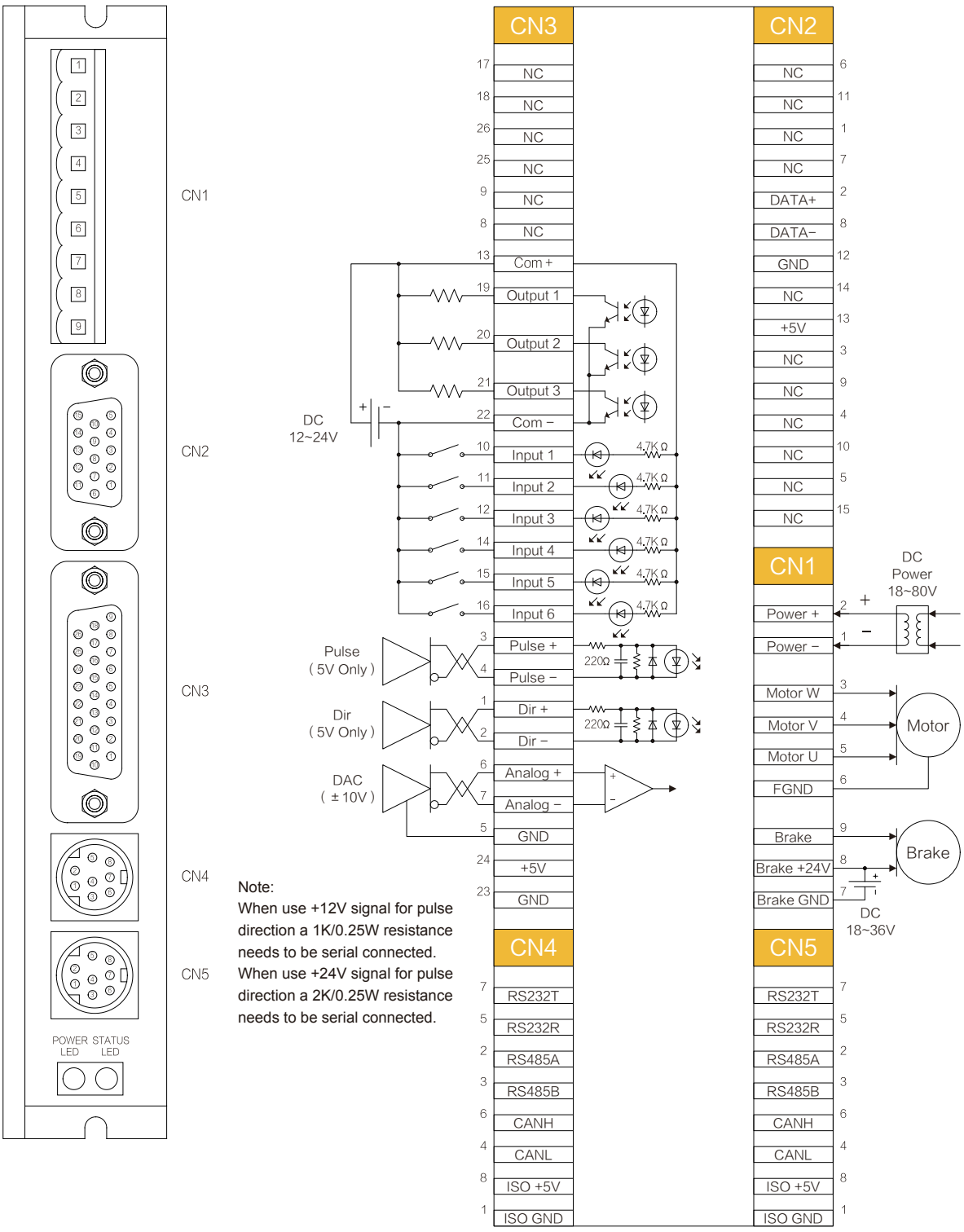
Note: Full line for ARES-8015
Dotted line for ARES-8020

MOTEC® ARES DC Servo Driver Wiring Diagram (2500 ppr incremental encoder)



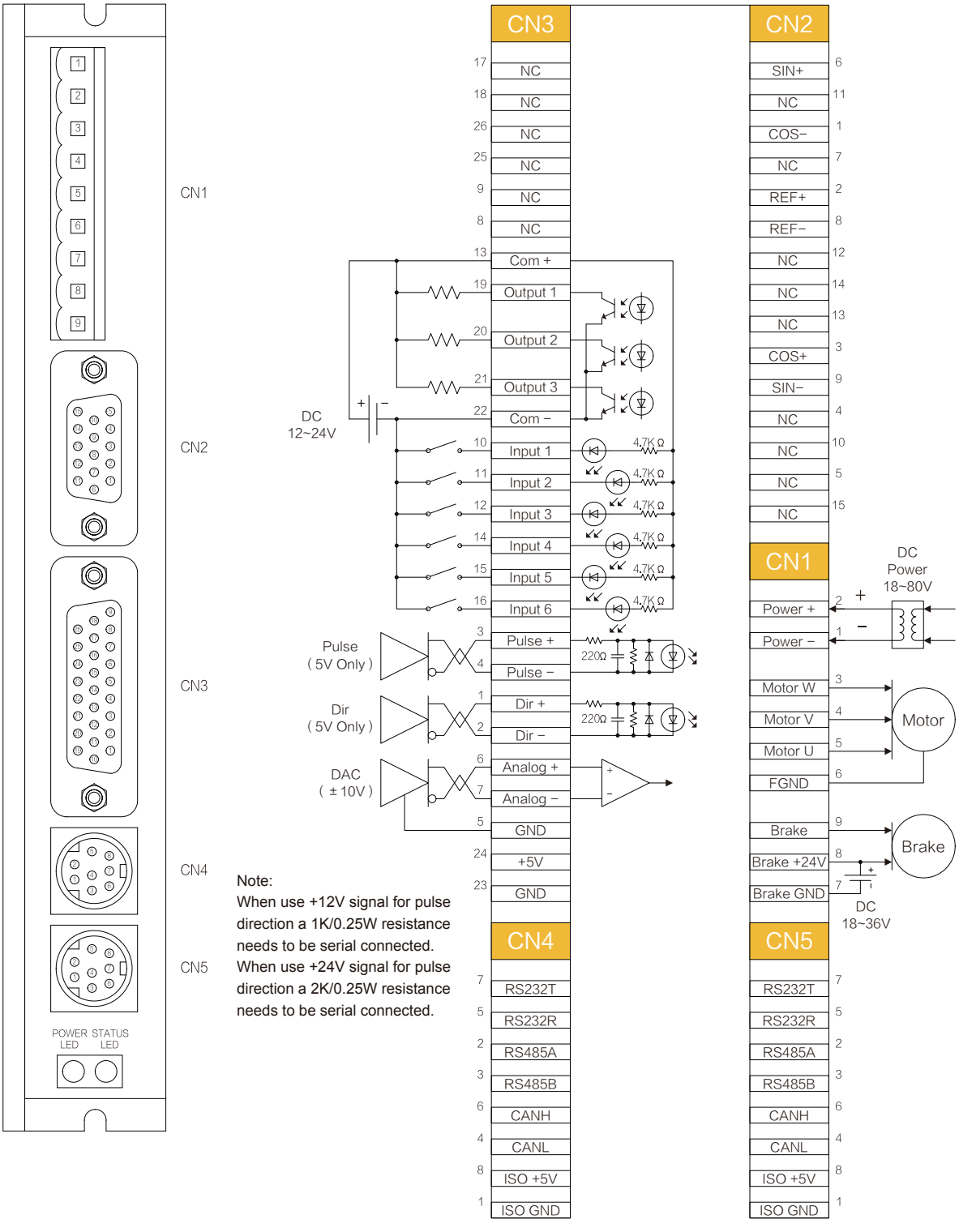
Note:
When use +12V signal for pulse direction a 1K/0.25W resistance needs to be serial connected.
When use +24V signal for pulse direction a 2K/0.25W resistance needs to be serial connected.

MOTEC® ARES DC Servo Driver Wiring Diagram (Serial Magnetic Encoder)



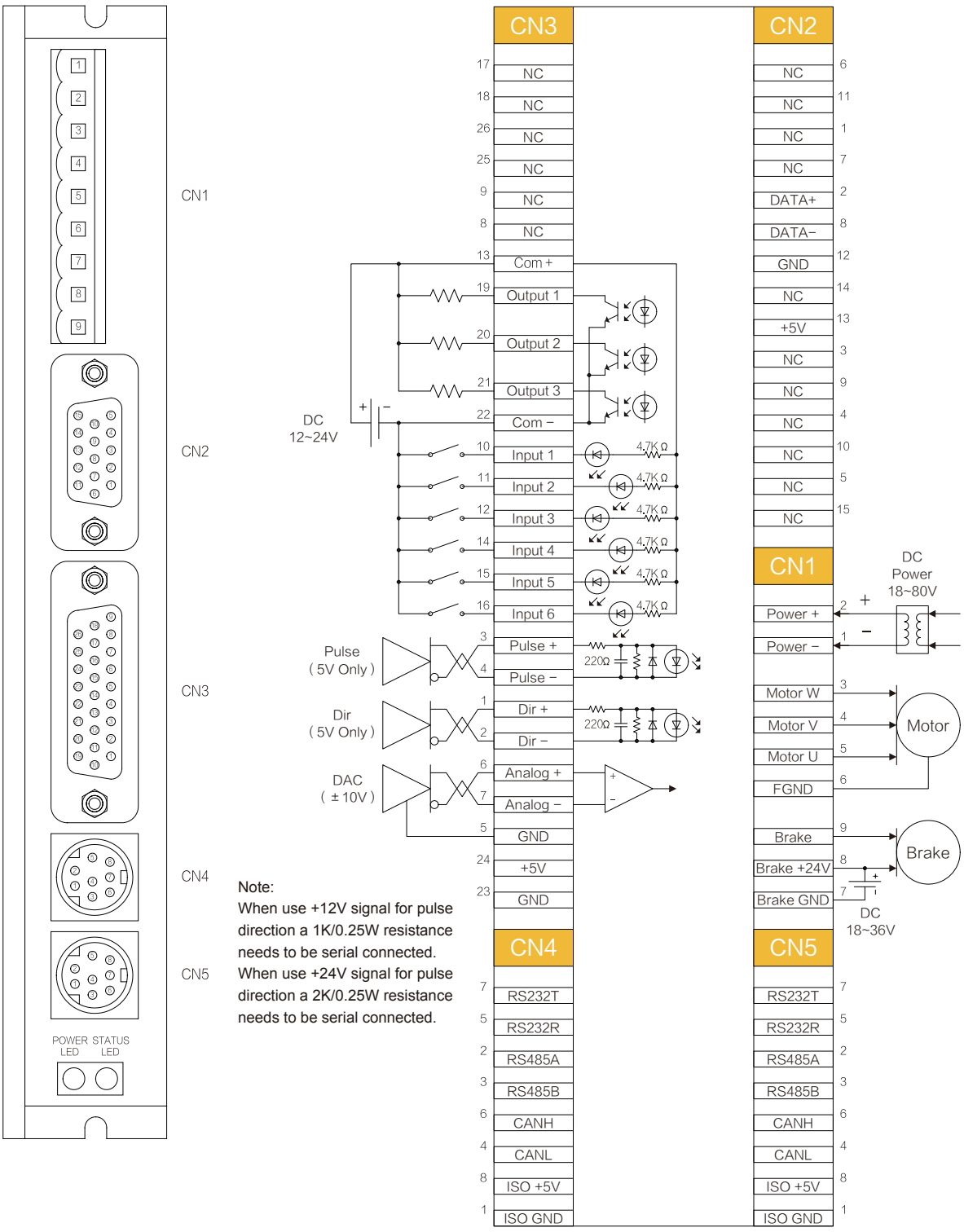
Note:
When use +12V signal for pulse direction a 1K/0.25W resistance needs to be serial connected.
When use +24V signal for pulse direction a 2K/0.25W resistance needs to be serial connected.

MOTEC® ARES DC Servo Driver Wiring Diagram (Resolver)



Note:
When use +12V signal for pulse direction a 1K/0.25W resistance needs to be serial connected.
When use +24V signal for pulse direction a 2K/0.25W resistance needs to be serial connected.

MOTEC® ARES DC Servo Driver Wiring Diagram (Absolute Encoder)



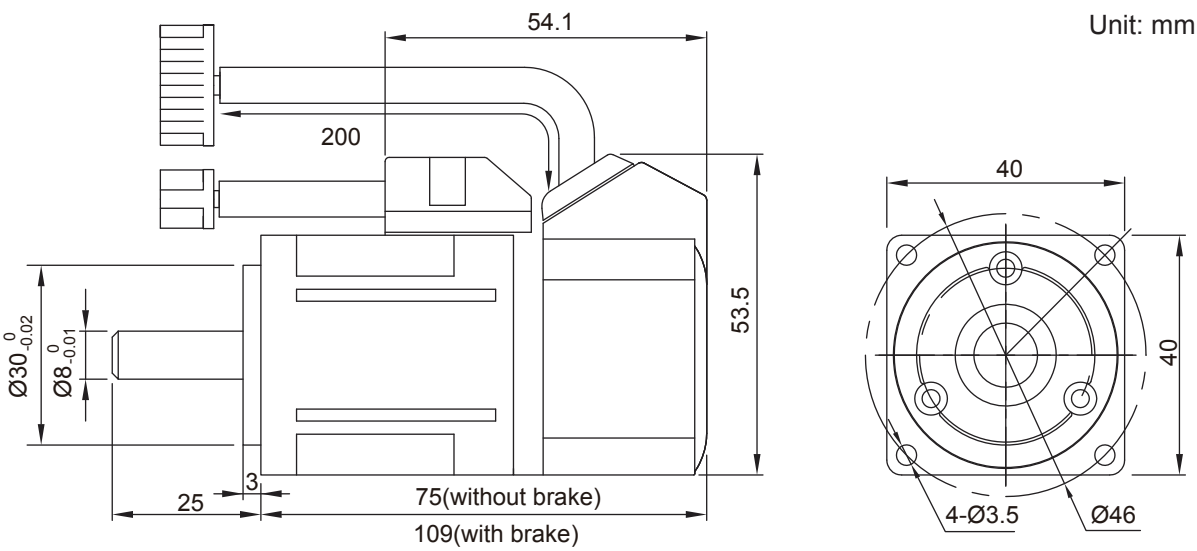
Note:
When use +12V signal for pulse direction a 1K/0.25W resistance needs to be serial connected.
When use +24V signal for pulse direction a 2K/0.25W resistance needs to be serial connected.

MOTEC® DSEM-V Series Servo Motor Specifications

Motor Model	DSEM-V240330*40LN/R	Unit
Driver Model	ARES8015*AC	
Rated Power	50	W
Rated Voltage	24	V
Rated Current	2.6	A
Rated Speed	3000	rpm
Rated Torque	0.16	N.m
Peak Torque	0.48	N.m
Counter Electromotive Force	4	V/1000r/min
Torque Coefficient	0.067	N.m/A
Rotor Inertia	0.025 x10^{-4}	Kg.m²
Winding Resistance(line to line)	0.67	Ω
Winding Inductance(line to line)	1. 56	mH
Electrical Time Constant	2. 33	ms
Weight	0.32/0.5	Kg
Encoder	**=E represents 2500 ppr encoder; **=R represents resolver; **=S represents absolute encoder	
Motor Insulation Class	Class B	
Degree of Protection	IP54，With grease seal on shaft end	
Working Enviroment	Temperature: -10℃ ~ +40℃ Humidity: Relateive Humidity<90%(No condensation moisture) (Motors with resolver are aviation plug outlet)Temperature: -20℃ ~ +40℃ (-40℃ ~ +55℃ can be chose)	

Note:No magnetic encoder available for 40 size motors.

Unit: mm



MOTEC® DC Servo System

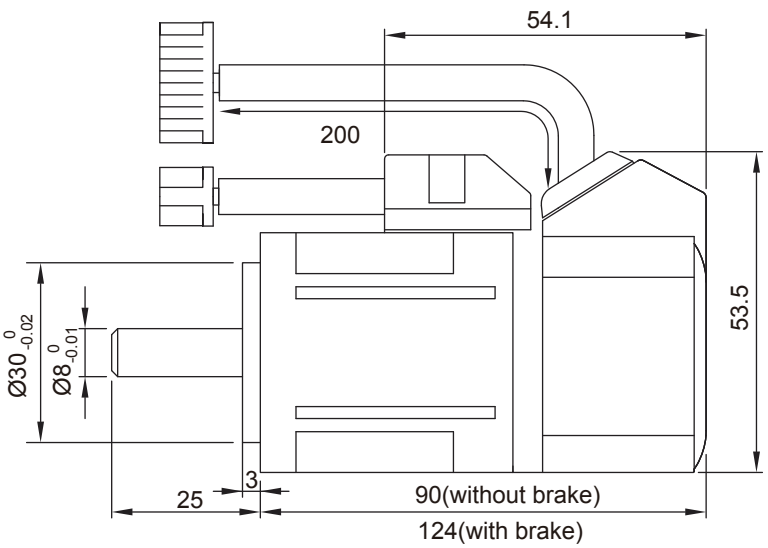
DSEM-V Series DC Servo Motor

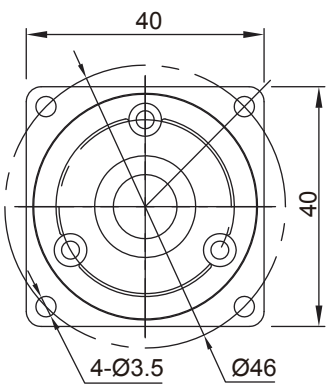
MOTEC® DSEM-V Series Servo Motor Specifications

Motor Model	DSEM-V240530*40LN/R	Unit
Driver Model	ARES8015*AC	
Rated Power	100	W
Rated Voltage	24	V
Rated Current	4.7	A
Rated Speed	3000	rpm
Rated Torque	0.32	N.m
Peak Torque	0.95	N.m
Counter Electromotive Force	4	V/1000r/min
Torque Coefficient	0.068	N.m/A
Rotor Inertia	0.051 x10^{-4}	Kg.m²
Winding Resistance(line to line)	0.28	Ω
Winding Inductance(line to line)	0.85	mH
Electrical Time Constant	3. 04	ms
Weight	0.47/0.65	Kg
Encoder	**=E represents 2500 ppr encoder; **=R represents resolver; **=S represents absolute encoder	
Motor Insulation Class	Class B	
Degree of Protection	IP54，With grease seal on shaft end	
Working Enviroment	Temperature: -10℃ ~ +40℃ Humidity: Relateive Humidity<90%(No condensation moisture) (Motors with resolver are aviation plug outlet)Temperature: -20℃ ~ +40℃ (-40℃ ~ +55℃ can be chose)	

Note:No magnetic encoder available for 40 size motors.

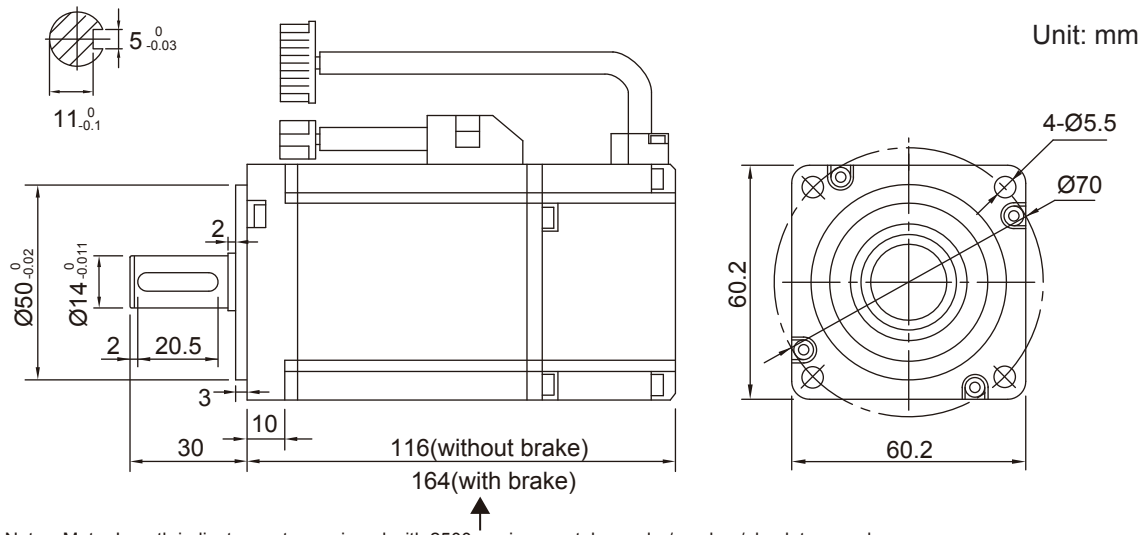
Unit: mm





MOTEC® DSEM-V Series Servo Motor Specifications

Motor Model	DSEM-V241230**60LN/R	Unit
Driver Model	ARES8015**AC	
Rated Power	200	W
Rated Voltage	24	V
Rated Current	12	A
Rated Speed	3000	rpm
Rated Torque	0.64	N.m
Peak Torque	1.91	N.m
Counter Electromotive Force	4	V/1000r/min
Torque Coefficient	0.053	N.m/A
Rotor Inertia	0.175 x10^{-4}	Kg.m²
Winding Resistance(line to line)	0.1	Ω
Winding Inductance(line to line)	0.34	mH
Electrical Time Constant	3.4	ms
Weight	1.2/1.7	Kg
Encoder	**=SM represents serial magnetic encoder; **=E represents 2500 ppr encoder; **=R represents resolver; **=S represents 17bit absolute encoder	
Motor Insulation Class	Class F	
Degree of Protection	IP54，With grease seal on shaft end	
Working Enviroment	Temperature: -10℃ ~ +40℃ Humidity: Relateive Humidity<90%(No condensation moisture) (Motors with resolver are aviation plug outlet)Temperature: -20℃ ~ +40℃ (-40℃ ~ +55℃ can be chose)	



Note：Motor Length indicates motor equipped with 2500 ppr incrmental encoder/resolver/absolute encoder
When equipped with serial magnetic encoder motor length is 96mm(without brake) and 144mm (with brake)

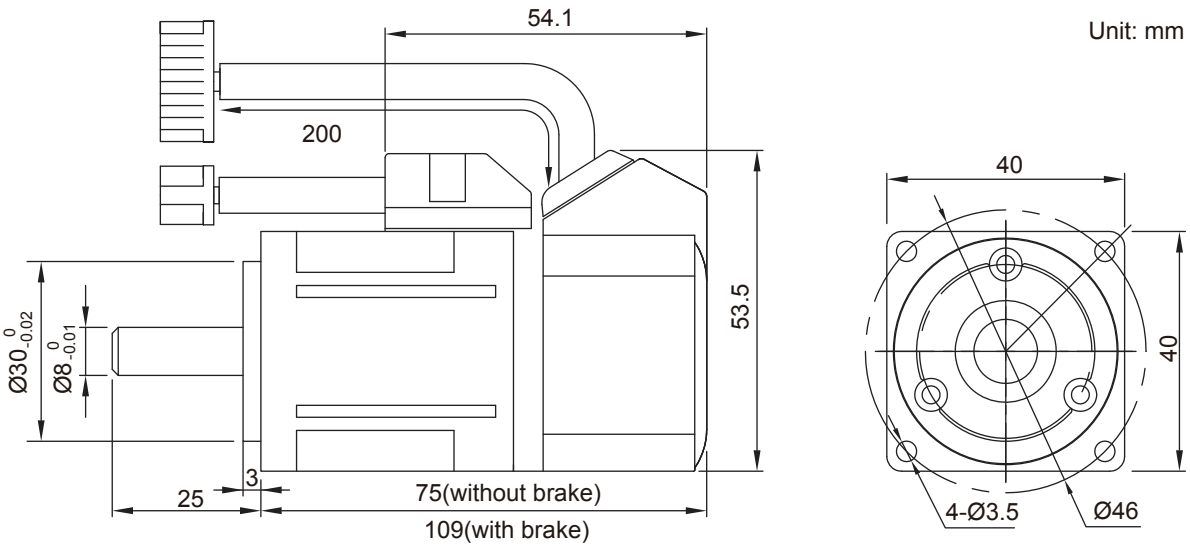
MOTEC® DC Servo System

DSEM-V Series DC Servo Motor

MOTEC® DSEM-V Series Servo Motor Specifications

Motor Model	DSEM-V480230*40LN/R	Unit
Driver Model	ARES8015*AC	
Rated Power	50	W
Rated Voltage	48	V
Rated Current	1.1	A
Rated Speed	3000	rpm
Rated Torque	0.16	N.m
Peak Torque	0.48	N.m
Counter Electromotive Force	9.2	V/1000r/min
Torque Coefficient	0.145	N.m/A
Rotor Inertia	0.025×10^{-4}	Kg.m²
Winding Resistance(line to line)	6.75	Ω
Winding Inductance(line to line)	7.5	mH
Electrical Time Constant	1.11	ms
Weight	0.32/0.5	Kg
Encoder	**=E represents 2500 ppr encoder; **=R represents resolver; **=S represents absolute encoder	
Motor Insulation Class	Class F	
Degree of Protection	IP54，With grease seal on shaft end	
Working Enviroment	Temperature: -10℃ ~ +40℃ Humidity: Relateive Humidity<90%(No condensation moisture) (Motors with resolver are aviation plug outlet)Temperature: -20℃ ~ +40℃ (-40℃ ~ +55℃ can be chose)	

Note:No magnetic encoder available for 40 size motors.

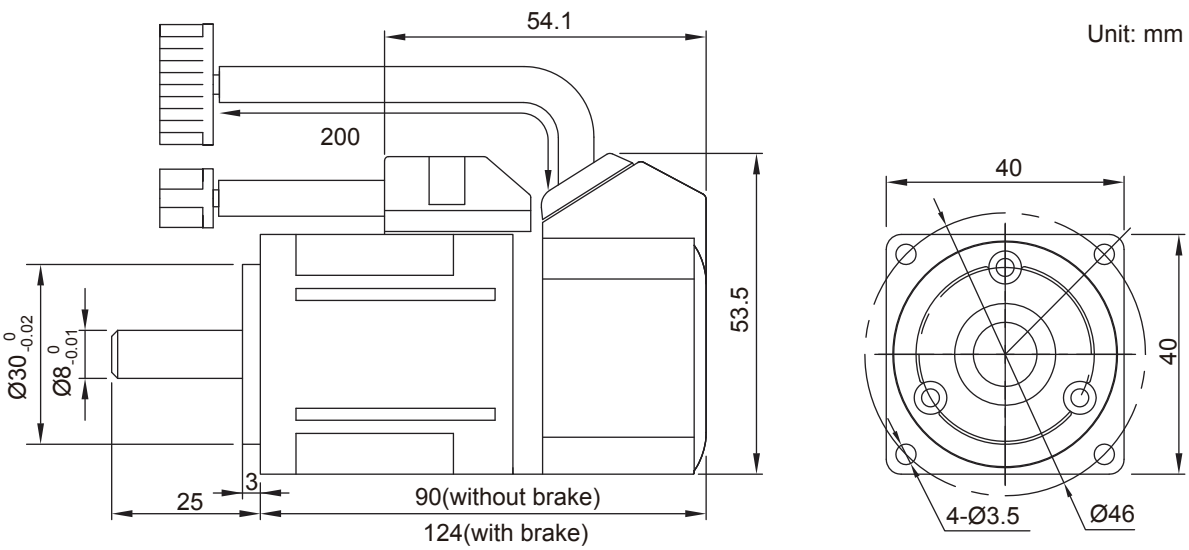


MOTEC® DSEM-V Series Servo Motor Specifications

Motor Model	DSEM-V480330*40LN/R	Unit
Driver Model	ARES8015*AC	
Rated Power	100	W
Rated Voltage	48	V
Rated Current	2.5	A
Rated Speed	3000	rpm
Rated Torque	0.32	N.m
Peak Torque	0.95	N.m
Counter Electromotive Force	8.2	V/1000r/min
Torque Coefficient	0.128	N.m/A
Rotor Inertia	0.051 x10^{-4}	Kg.m²
Winding Resistance(line to line)	2.2	Ω
Winding Inductance(line to line)	3.0	mH
Electrical Time Constant	1.36	ms
Weight	0.47/0.65	Kg
Encoder	**=E represents 2500 ppr encoder; **=R represents resolver; **=S represents absolute encoder	
Motor Insulation Class	Class F	
Degree of Protection	IP54，With grease seal on shaft end	
Working Enviroment	Temperature: -10℃ ~ +40℃ Humidity: Relateive Humidity<90%(No condensation moisture) (Motors with resolver are aviation plug outlet)Temperature: -20℃ ~ +40℃ (-40℃ ~ +55℃ can be chose)	

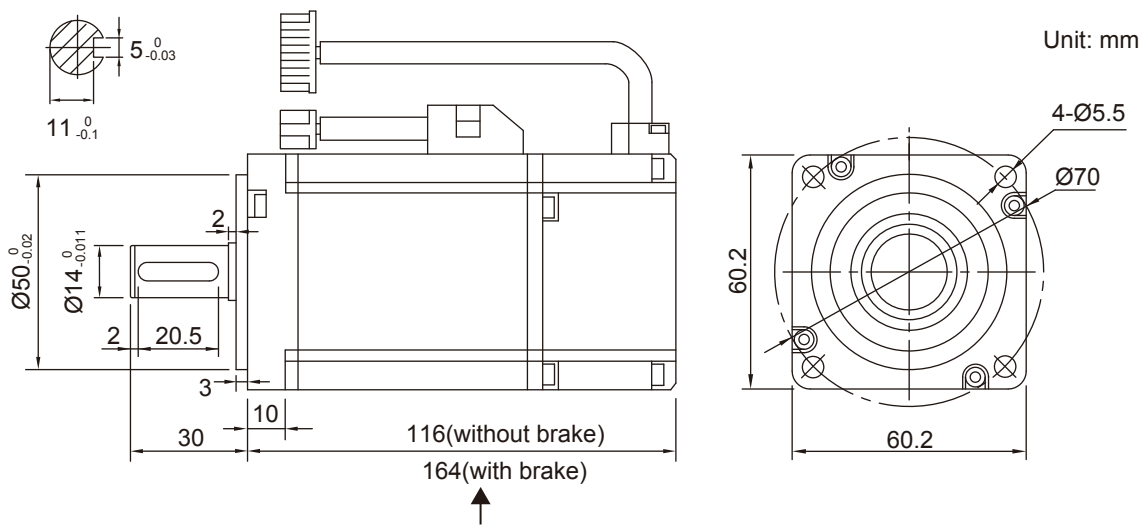
Note:No magnetic encoder available for 40 size motors.

Unit: mm



MOTEC® DSEM-V Series Servo Motor Specifications

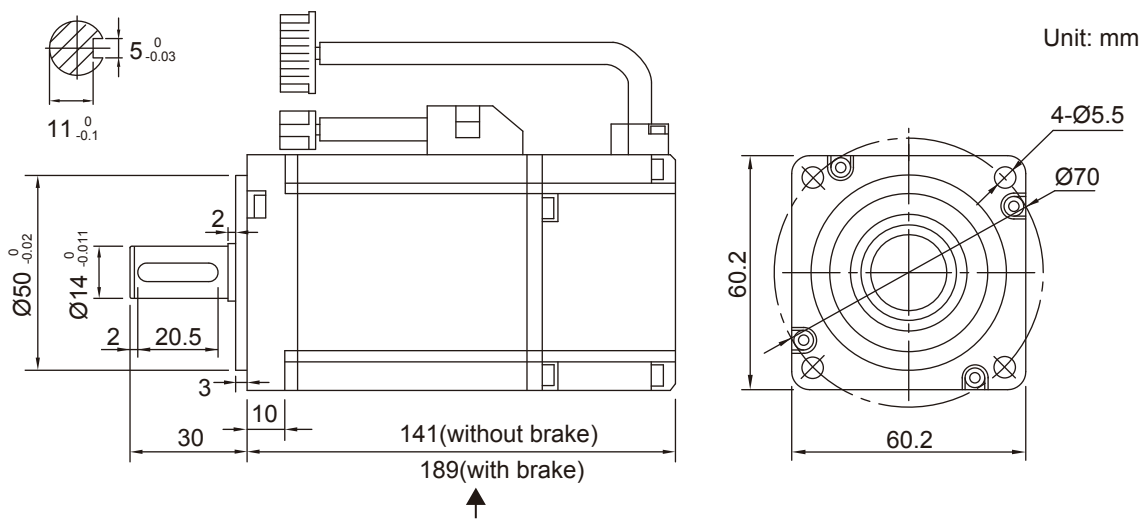
Motor Model	DSEM-V480630**60LN/R	Unit
Driver Model	ARES8015**AC	
Rated Power	200	W
Rated Voltage	48	V
Rated Current	5.7	A
Rated Speed	3000	rpm
Rated Torque	0.64	N.m
Peak Torque	1.91	N.m
Counter Electromotive Force	8	V/1000r/min
Torque Coefficient	0.112	N.m/A
Rotor Inertia	0.175×10^{-4}	Kg.m²
Winding Resistance(line to line)	0.3	Ω
Winding Inductance(line to line)	1.378	mH
Electrical Time Constant	4.59	ms
Weight	1.2/1.7	Kg
Encoder	**=SM represents serial magnetic encoder; **=E represents 2500 ppr encoder; **=R represents resolver; **=S represents 17bit absolute encoder	
Motor Insulation Class	Class F	
Degree of Protection	IP54，With grease seal on shaft end	
Working Enviroment	Temperature: -10℃ ~ +40℃ Humidity: Relateive Humidity<90%(No condensation moisture) (Motors with resolver are aviation plug outlet)Temperature: -20℃ ~ +40℃ (-40℃ ~ +55℃ can be chose)	



Note：Motor Length indicates motor equipped with 2500 ppr incrmental encoder/resolver/absolute encoder
When equipped with serial magnetic encoder motor length is 96(without brake) /144 (with brake)

MOTEC® DSEM-V Series Servo Motor Specifications

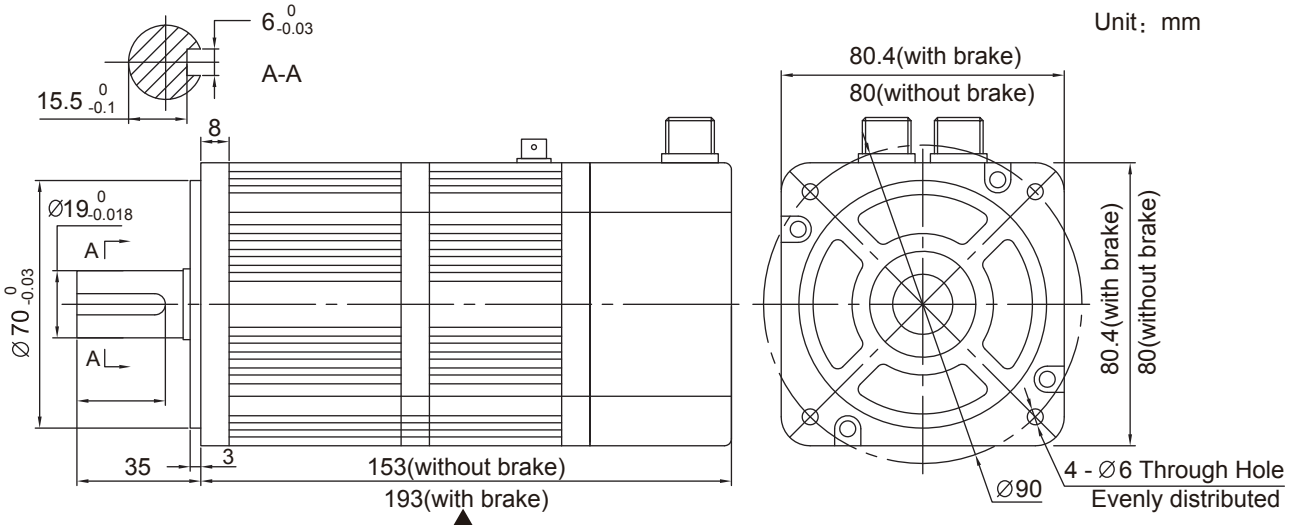
Motor Model	DSEM-V481230**60LN	Unit
Driver Model	ARES8015****	
Rated Power	400	W
Rated Voltage	48	V
Rated Current	11	A
Rated Speed	3000	rpm
Rated Torque	1.27	N.m
Peak Torque	3.9	N.m
Counter Electromotive Force	8	V/1000r/min
Torque Coefficient	0.115	N.m/A
Rotor Inertia	0.29×10^{-4}	Kg.m²
Winding Resistance(line to line)	0.15	Ω
Winding Inductance(line to line)	0.708	mH
Electrical Time Constant	4.72	ms
Weight	1.63	Kg
Encoder	**=SM represents serial magnetic encoder; **=E represents 2500 ppr encoder; **=R represents resolver; **=S represents 17bit absolute encoder	
Motor Insulation Class	Class F	
Degree of Protection	IP54，With grease seal on shaft end	
Working Enviroment	Temperature: -10℃ ~ +40℃ Humidity: Relateive Humidity<90%(No condensation moisture) (Motors with resolver are aviation plug outlet)Temperature: -20℃ ~ +40℃ (-40℃ ~ +55℃ can be chose)	



Note：Motor Length indicates motor equipped with 2500 ppr incrmental encoder/resolver/absolute encoder
When equipped with serial magnetic encoder motor length is 119(without brake) /167(with brake)

MOTEC® DSEM-V Series Servo Motor Specifications

Motor Model	DSEM-V482030**80LN/R	Unit
Driver Model	ARES8020**AC	
Rated Power	750	W
Rated Voltage	48	V
Rated Current	19.5	A
Rated Speed	3000	rpm
Rated Torque	2.4	N.m
Peak Torque	7.1	N.m
Counter Electromotive Force	7.4	V/1000r/min
Torque Coefficient	0.123	N.m/A
Rotor Inertia	1.82 x10 $^{-4}$	Kg.m²
Winding Resistance(line to line)	0.066	Ω
Winding Inductance(line to line)	0.151	mH
Electrical Time Constant	2.29	ms
Weight	2.9	Kg
Encoder	**=SM represents serial magnetic encoder; **=E represents 2500 ppr encoder; **=R represents resolver; **=S represents 17bit absolute encoder	
Motor Insulation Class	Class F	
Degree of Protection	IP65	
Working Enviroment	Temperature: -10℃ ~ +40℃ Humidity: Relateive Humidity<90%(No condensation moisture) (Motors with resolver are aviation plug outlet)Temperature: -20℃ ~ +40℃ (-40℃ ~ +55℃ can be chose)	



Note：Motor Length indicates motor equipped with 2500 ppr incrmental encoder/resolver/absolute encoder
When equipped with serial magnetic encoder motor length is 138(without brake) /186(with brake)

MOTEC® DSEM-V Motor & Accessories

Table1—Motors with serial magnetic encoder

Voltage (V)	Power (W)	Motor Model	Motor Power Plug	Brake Plug	Encoder Plug (Driver Side +Motor Side)	Motor Power Cable	Motor Brake Cable	Motor Encoder Cable	Motor Power Cable Specs (4 cores shield)	Motor Brake Cable Specs (2 cores)	Encoder Cable Specs(6 cores twisted paried)
48	200	DSEM-V480630SM60L*	DSEM-V COP1A	DSEM-V COP1F	DSEM-V COE3A	DSEM-V CAPD1A**	DSEM-V CAPD1F**	DSEM-V CAED3A**	4*0.75mm²	2*0.75mm²	3*2*0.2mm²
24	200	DSEM-V241230SM60L*	DSEM-V COP2A			DSEM-V CAPD2A**			4*1.5mm²		
48	400	DSEM-V481230SM60L*									
48	750	DSEM-V482030SM80L*	DSEM-V COP3A	DSEM-V COP2F	DSEM-V COE2A	DSEM-V CAPD3A**	DSEM-V CAPD2F**	DSEM-V CAED2B**	4*1.5mm²		

Table 2—Motors with 2500 PPR Incremental Encoder

Voltage (V)	Power (W)	Motor Model	Motor Power Plug	Brake Plug	Encoder Plug (Driver Side +Motor Side)	Motor Power Cable	Motor Brake Cable	Motor Encoder Cable	Motor Power Cable Specs (4 cores shield)	Motor Brake Cable Specs (2 cores)	Encoder Cable Specs(6 cores twisted paried)
24	50	DSEM-V240330E40L*	DSEM-V COP1A	DSEM-V COP1F	DSEM-V COE1A	DSEM-V CAPD1A**	DSEM-V CAPD1F**	DSEM-V CAED1A**	4*0.75mm²	2*0.75mm²	7*2*0.2mm²
24	100	DSEM-V240530E40L*									
48	50	DSEM-V480230E40L*									
48	100	DSEM-V480330E40L*									
48	200	DSEM-V480630E60L*									
24	200	DSEM-V241230E60L*	DSEM-V COP2A			DSEM-V CAPD2A**			4*1.5mm²		
48	400	DSEM-V481230E60L*									
48	750	DSEM-V482030E80L*	DSEM-V COP3A	DSEM-V COP2F	DSEM-V COE2A	DSEM-V CAPD3A**	DSEM-V CAPD2F**	DSEM-V CAED2A**	4*1.5mm²		

Note： * represents options of brake, N means no brake， R means with brake

** represents length of cable, A5 represents 1.5 meters and 03 represents 3 meters；

MOTEC® DSEM-V Motor & Accessories

Table 3—Motors with absolute encoder

Voltage (V)	Power (W)	Motor Model	Motor Power Plug	Brake Plug	Encoder Plug (Driver Side +Motor Side)	Motor Power Cable	Motor Brake Cable	Motor Encoder Cable	Motor Power Cable Specs (4 cores shield)	Motor Brake Cable Specs (2 cores)	Encoder Cable Specs(6 cores twisted paried)
24	50	DSEM-V240330S40L*	DSEM-V COP4A	DSEM-V COP3F	DSEM-V COE8A	DSEM-V CAPD4A**	DSEM-V CAPD3F**	DSEM-V CAED8A** (带电池)	4*0.75mm²	2*0.75mm²	3*2*0.2mm²
24	100	DSEM-V240530S40L*									
48	50	DSEM-V480230S40L*									
48	100	DSEM-V480330S40L*									
48	200	DSEM-V480630S60L*	DSEM-V COP2A			DSEM-V CAPD2A**			4*1.5mm²		
24	200	DSEM-V241230S60L*									
48	400	DSEM-V481230S60L*									
48	750	DSEM-V482030S80L*		DSEM-V COP2F			DSEM-V CAPD2F**				

Table 4—Motors with Resolver

Voltage (V)	Power (W)	Motor Model	Motor Power Plug	Brake Plug	Encoder Plug (Driver Side +Motor Side)	Motor Power Cable	Motor Brake Cable	Motor Encoder Cable	Motor Power Cable Specs (4 cores shield)	Motor Brake Cable Specs (2 cores)	Encoder Cable Specs(10 cores twisted paried)
24	50	DSEM-V240330R40L*	DSEM-V COP2A	DSEM-V COP3F	DSEM-V COE9A	DSEM-V CAPD2B**	DSEM-V CAPD3F**	DSEM-V CAED9A**	4*0.75mm²	2*0.75mm²	5*2*0.2mm²
24	100	DSEM-V240530R40L*									
48	50	DSEM-V480230R40L*									
48	100	DSEM-V480330R40L*									
48	200	DSEM-V480630R60L*				DSEM-V CAPD2A**			4*1.5mm²		
24	200	DSEM-V241230R60L*									
48	400	DSEM-V481230R60L*									
48	750	DSEM-V482030R80L*		DSEM-V COP2F			DSEM-V CAPD2F**				

Note： * represents options of brake, N means no brake， R means with brake

** represents length of cable, A5 represents 1.5 meters and 03 represents 3 meters；

MOTEC® ARES DC Servo System Accessories

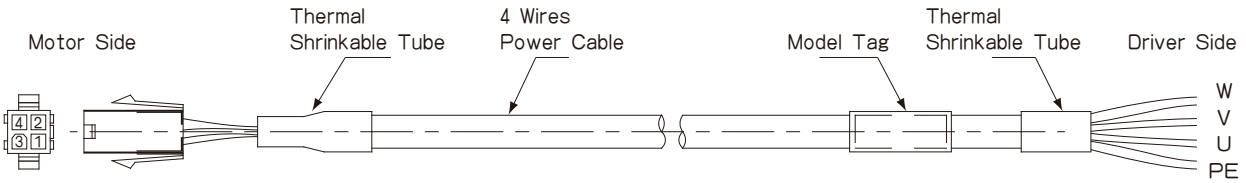
Type	Model	Descriptions
Servo Motor Power Plug	DSEM-VCOP1A	Servo motor power plug, plastic plug
	DSEM-VCOP2A	Servo motor power plug, metal aviation plug
	DSEM-VCOP3A	Servo motor power plug, metal aviation plug
	DSEM-VCOP4A	Servo motor power plug, metal aviation plug
Servo Motor Brake Plug	DSEM-VCOP1F	Servo motor brake plug, plastic plug
	DSEM-VCOP2F	Servo motor brake plug, metal aviation plug
	DSEM-VCOP2F	Servo motor brake plug, metal aviation plug
Servo Motor Encoder Plug Set	DSEM-VCOE1A	Servo motor encoder plug (connector) set, SUB-D15 male plug for driver and plastic plug for motor
	DSEM-VCOE2A	Servo motor encoder plug (connector) set, SUB-D15 male plug for driver and aviation plug for motor
	DSEM-VCOE3A	Servo motor encoder plug (connector) set, SUB-D15 male plug for driver and SUB-D9 female for motor
	DSEM-VCOE8A	Servo motor encoder plug (connector) set, SUB-D15 male plug for driver and XS16K7P-BL aviation plug for motor
	DSEM-VCOE9A	Servo motor encoder plug (connector) set, SUB-D15 male plug for driver and YD18K15TM aviation plug for motor
Servo Motor Power Cable	DSEM-VCAPD1AA5	Servo motor power cable, plastic plug, 4*0.75mm^2, 1.5 meters long
	DSEM-VCAPD1A03	Servo motor power cable, plastic plug, 4*0.75mm^2, 3 meters long
	DSEM-VCAPD2AA5	Servo motor power cable, aviation plug, 4*1.5mm^2, 1.5 meters long
	DSEM-VCAPD2A03	Servo motor power cable, aviation plug, 4*1.5mm^2, 3 meters long
	DSEM-VCAPD2BA5	Servo motor power cable, aviation plug, 4*0.75mm^2, 1.5 meters long, for DSEM-V motors with resolver
	DSEM-VCAPD2B03	Servo motor power cable, aviation plug, 4*0.75mm^2, 3 meters long, for DSEM-V motors with resolver
	DSEM-VCAPD3AA5	Servo motor power cable, aviation plug, 4*1.5mm^2, 1.5 meters long
	DSEM-VCAPD3A03	Servo motor power cable, aviation plug, 4*1.5mm^2, 3 meters long
	DSEM-VCAPD4AA5	Servo motor power cable, aviation plug, 4*0.75mm^2, 1.5 meters long
	DSEM-VCAPD4A03	Servo motor power cable, aviation plug, 4*0.75mm^2, 3 meters long
Servo Motor Brake Cable	DSEM-VCAPD1FA5	Servo motor brake cable, plastic plug, 2*0.75mm^2, 1.5 meters long
	DSEM-VCAPD1F03	Servo motor brake cable, plastic plug, 2*0.75mm^2, 3 meters long
	DSEM-VCAPD2FA5	Servo motor brake cable, aviation plug, 2*0.75mm^2, 1.5 meters long
	DSEM-VCAPD2F03	Servo motor brake cable, aviation plug, 2*0.75mm^2, 3 meters long
	DSEM-VCAPD3FA5	Servo motor brake cable, aviation plug, 2*0.75mm^2, 1.5 meters long
	DSEM-VCAPD3F03	Servo motor brake cable, aviation plug, 2*0.75mm^2, 3 meters long

MOTEC® ARES DC Servo System Accessories

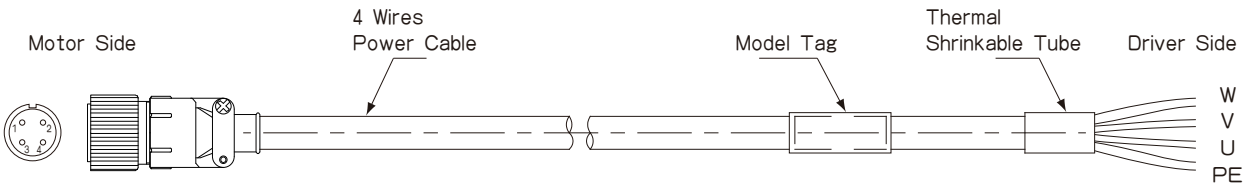
Type	Model	Descriptions
Servo Motor Encoder Cable	DSEM-VCAED1AA5	Servo motor encoder cable, 1.5 meters long, for DSEM-V motors with incrmental encoder
	DSEM-VCAED1A03	Servo motor encoder cable, 3 meters long, for DSEM-V motors with incrmental encoder
	DSEM-VCAED2AA5	Servo motor encoder cable, 1.5 meters long, for DSEM-V motors with incrmental encoder
	DSEM-VCAED2A03	Servo motor encoder cable, 3 meters long, for DSEM-V motors with incrmental encoder
	DSEM-VCAED2BA5	Servo motor encoder cable, 1.5 meters long, for DSEM-V motors with magnetic encoder
	DSEM-VCAED2B03	Servo motor encoder cable, 3 meters long, for DSEM-V motors with magnetic encoder
	DSEM-VCAED3AA5	Servo motor encoder cable, 1.5 meters long, for DSEM-V motors with magnetic encoder
	DSEM-VCAED3A03	Servo motor encoder cable, 3 meters long, for DSEM-V motors with magnetic encoder
	DSEM-VCAED8AA5	Servo motor encoder cable, 1.5 meters long, for DSEM-V motors with absolute encoder, integrated battery
	DSEM-VCAED8A03	Servo motor encoder cable, 3 meters long, for DSEM-V motors with absolute encoder, integrated battery
	DSEM-VCAED9AA5	Servo motor encoder cable, 1.5 meters long, for DSEM-V motors with resolver
	DSEM-VCAED9A03	Servo motor encoder cable, 3 meters long, for DSEM-V motors with resolver
CAN communication cable	MAC-CAND1AA05	CANopen cable, for controller to driver, controller side open wires, driver side MD8 plug, 0.5 meters long
	MAC-CAND1A01	CANopen cable, for controller to driver, controller side open wires, driver side MD8 plug, 1 meter long
	MAC-CAND1AA5	CANopen cable, for controller to driver, controller side open wires, driver side MD8 plug, 1.5 meters long
	MAC-CAND1A03	CANopen cable, for controller to driver, controller side open wires, driver side MD8 plug, 3 meters long
	MAC-CAND2AA05	CANopen cable, for driver to driver, MD8 plug on both sides, 0.5 meters long
	MAC-CAND2A01	CANopen cable, for driver to driver, MD8 plug on both sides, 1 meter long
	MAC-CAND2AA5	CANopen cable, for driver to driver, MD8 plug on both sides, 1.5 meters long
	MAC-CAND2A03	CANopen cable, for driver to driver, MD8 plug on both sides, 3 meters long
	MAC-CAND2A05	CANopen cable, for driver to driver, MD8 plug on both sides, 5 meters long
CAN terminal resistance	MAC-CANTER	Terminal resistance on CANopen cable
PC communication cable	CABLE-485-USB-MD8-3000	USB to RS485 cable, one side USB, one side MD8(RS485), for ARES servo connected to computer, 3 meters long

MOTEC® ARES DC Servo Power Cable

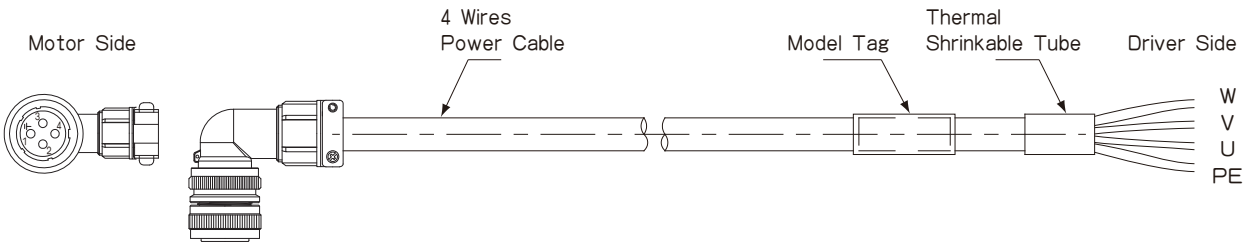
Model: DSEM-VCAPD1A(one end with motor plug, another end open wires)**



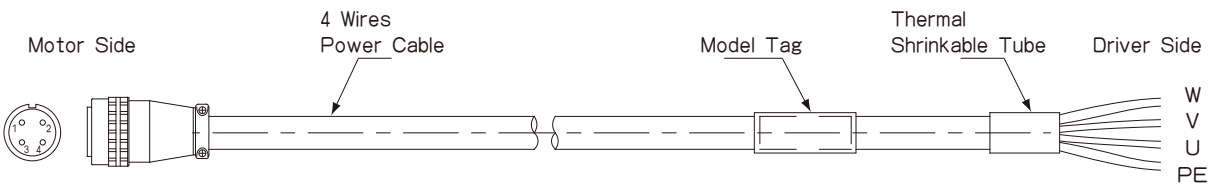
Model: DSEM-VCAPD2A(one end with motor plug, another end open wires)**



Model: DSEM-VCAPD3A(one end with motor plug, another end open wires)**



Model: DSEM-VCAPD4A(one end with motor plug, another end open wires)**



Model: DSEM-VCAPD1A**

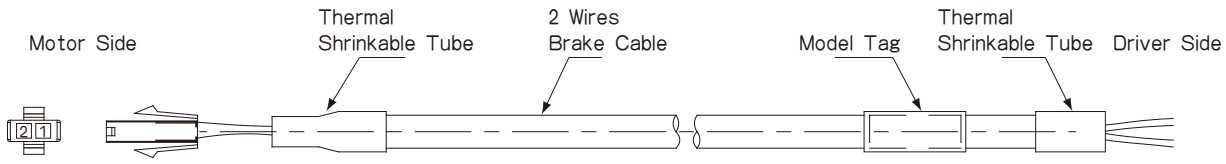
Motor Side		Driver Side	
Pin	Definition	Pin	Definition
3	W	1	W
2	V	2	V
1	U	3	U
4	PE	4	PE

Model: DSEM-VCAPD2A/DSEM-VCAPD3A****
DSEM-VCAPD4A**

Motor side		Driver Side	
Pin	Definition	Pin	Definition
4	W	1	W
3	V	2	V
2	U	3	U
1	PE	4	PE

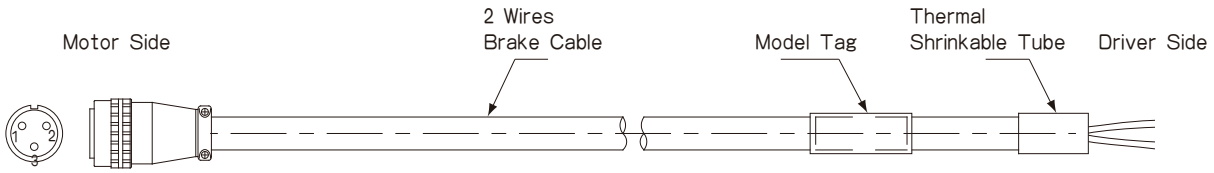
MOTEC® ARES DC Servo Brake Cable

Model: DSEM-VCAPD1F**(Connector on one end and open wires on another end)



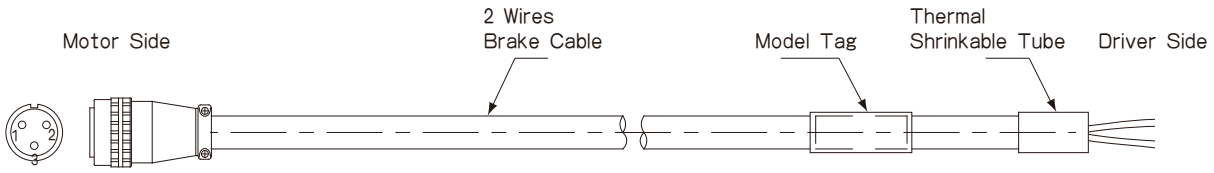
1 for BK+, 2 for BK−

Model: DSEM-VCAPD2F**(Connector on one end and open wires on another end)



1 for BK+, 2 for BK−,3 void

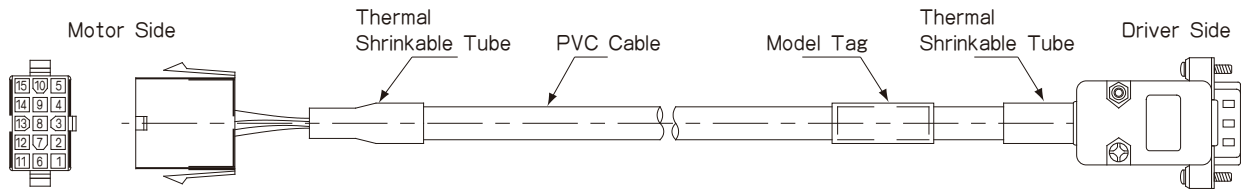
Model: DSEM-VCAPD3F**(Connector on one end and open wires on another end)



1 for BK+, 2 for BK−,3 void

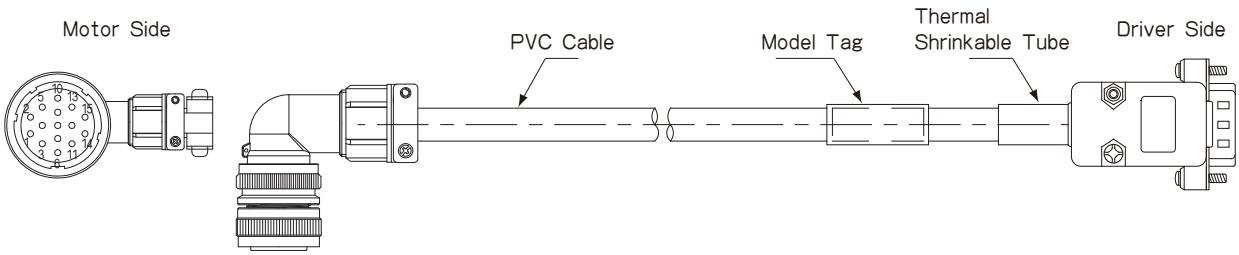
MOTEC® ARES DC Servo Encoder Cable

Model: DSEM-VCAED1A**



Motor Side		Driver Side	
Pin	Definition	Pin	Definition
1	PE	-	Shield
2	5V	13	+5V
3	0V	12	GND
6	U+	3	Hall U+
8	U-	9	Hall U-
10	V+	4	Hall V+
12	V-	10	Hall V-
11	W+	5	Hall W+
15	W-	15	Hall W-
9	A+	6	Encoder A+
13	A-	11	Encoder A-
4	B+	1	Encoder B+
14	B-	7	Encoder B-
7	Z+	2	Encoder Z+
5	Z-	8	Encoder Z-

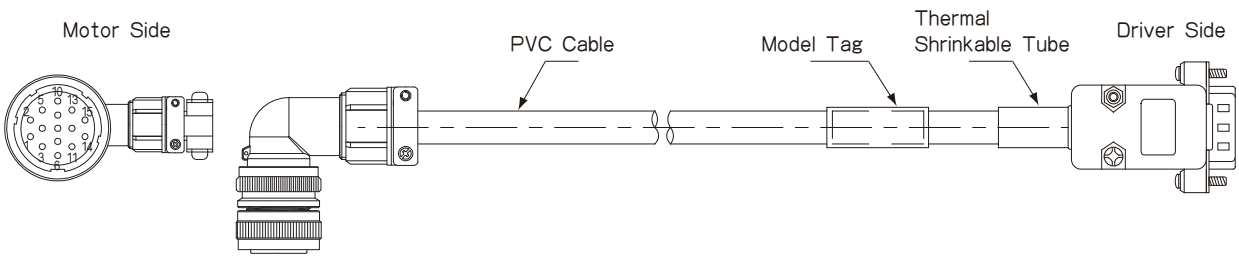
Model: DSEM-VCAED2A**



Motor Side	
Pin	Definition
1	PE
2	5V
3	0V
10	U+
13	U-
11	V+
14	V-
12	W+
15	W-
4	A+
7	A-
5	B+
8	B-
6	Z+
9	Z-

Driver Side	
Pin	Definiton
-	Shield
13	+5V
12	GND
3	Hall U+
9	Hall U-
4	Hall V+
10	Hall V-
5	Hall W+
15	Hall W-
6	Encoder A+
11	Encoder A-
1	Encoder B+
7	Encoder B-
2	Encoder Z+
8	Encoder Z-

Model: DSEM-VCAED2B**

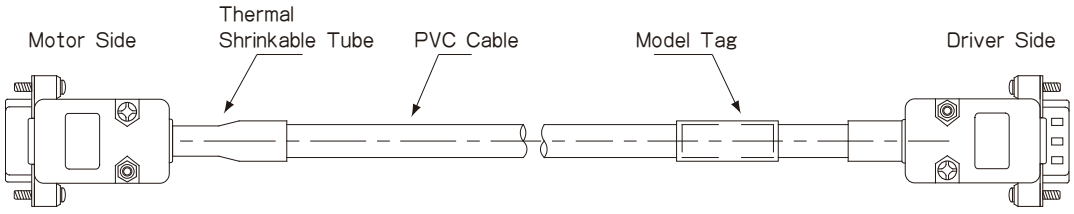


Motor Side	
Pin	Definition
2	DATA+
8	DATA-
-	PE
12	GND
13	+5V

Driver Side	
Pin	Definition
2	DATA+
8	DATA-
-	Shield
12	GND
13	+5V

ARES DC Servo System Accessories

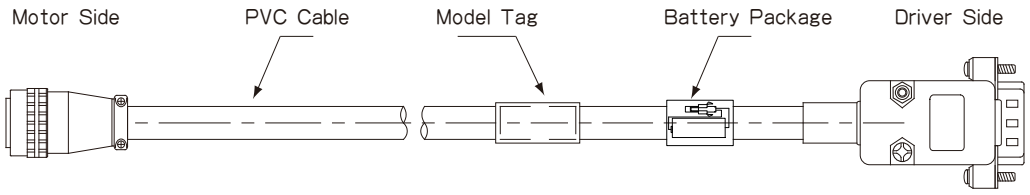
Model: DSEM-VCAED3A**



Motor Side	
Pin	Definition
2	DATA+
8	DATA-
-	PE
12	GND
13	+5V

Driver Side	
Pin	Definition
2	DATA+
8	DATA-
-	Shield
12	GND
13	+5V

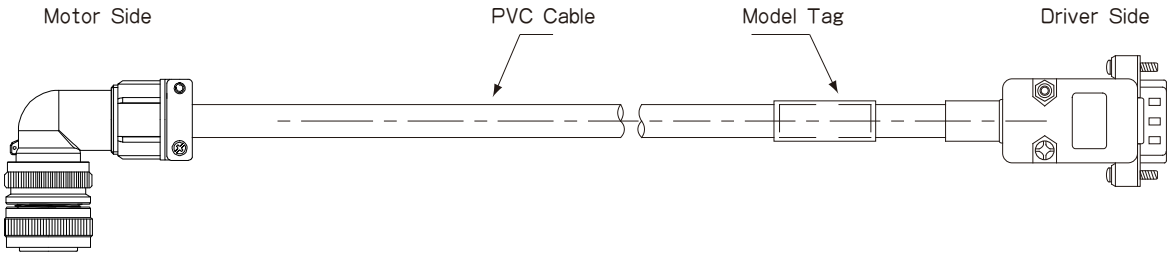
Model: DSEM-VCAED8A**



Motor Side	
Pin	Definition
6	DATA+
4	DATA-
3	E+
2	E-
7	+5V
5	GND
1	PE

Driver Side	
Pin	Definition
2	DATA+
8	DATA-	
13	+5V
12	GND
-	Shield

Model: DSEM-VCAED9A**



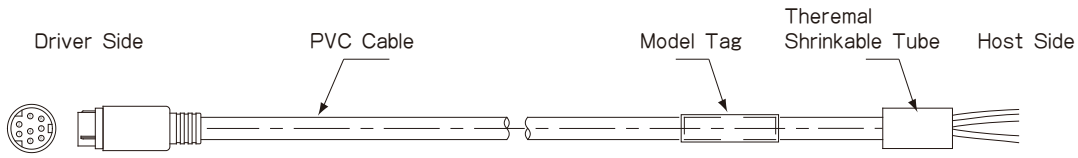
Motor Side	
Pin	Definition
2	COS+
5	COS-
13	SIN+
10	SIN-
14	REF+
15	REF-
1	Shield

Driver Side	
Pin	Definition
3	COS+
1	COS-
6	SIN+
9	SIN-
2	REF+
8	REF-
Shell	Shield

MOTEC® ARES DC Servo Communication Cable

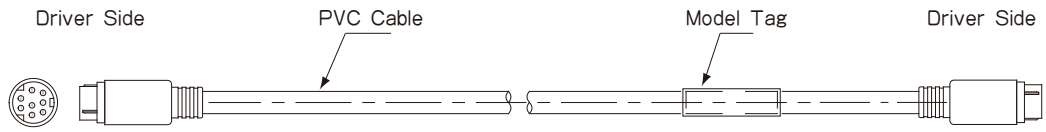
CAN Communication Cable

Cable Model	Description
MAC-CAND1AXXX	CAN communication cable, MD8 connector on one end and open wires on another end, suitable for communication with host computer.



Note：Four lengths can be selected, 0.5 meter/1 meter/1.5 meters/3 meters, refer to page 25.

Cable Model	Description
MAC-CAND2AXXX	CAN communication cable, MD8 connector on both sides, suitable for network mode.



Note：Five lengths can be selected, 0.5 meter/1 meter/1.5 meters/3 meters/5 meters, refer to page 25.

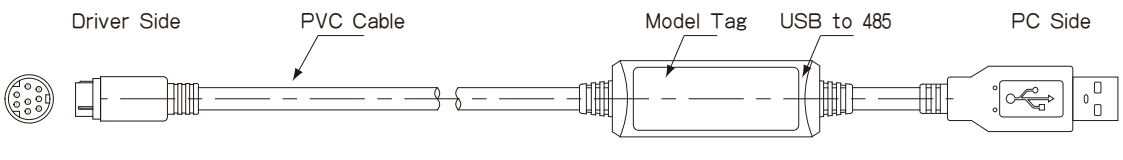
CAN Bus Communication terminal resistance

Model	Description
MAC-CANTER	CAN Bus Communication terminal resistance, connected to the last driver of CAN communication network, MD8 connector, 120 Ω resistance inside.

Note：For other communication cables, please consult MOTEC.

PC Communication cable

Cable Model	
CABLE-485-USB-MD8-3000	USB to RS485(MD8 connctor)，communication between ARES servo driver and PC, 3 meters.



MOTEC®

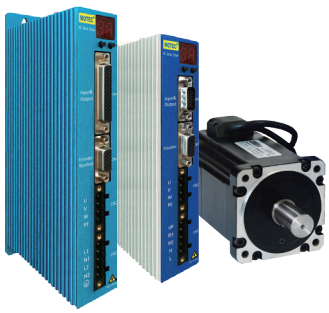
MOTEC® DC Servo System

MOTEC® Product Family Members Overview

- Stepper System
- AC Servo System
- Electric Cylinder
- Servo Wheel System
- 5+ Axis CNC
- Planetary Gearbox

MOTEC® Stepper System

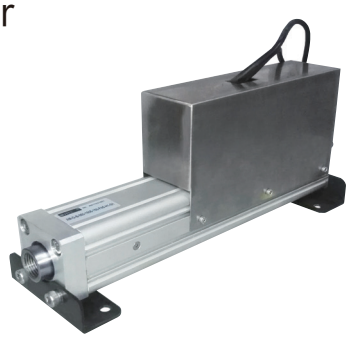
MOTEC® Stepper system comes with standard models and intelligent models for customer's choice. The maximum resolution of standard stepper system is up to 60000P/R which can be setup with a 8-position dip switch and two power supply options are available, which is 18~80VDC and150~260VAC.Intelligent stepper drivers are equiped with RS232/RS485/CAN communication ports and I/O ports as well and compatiable with MODBUS & CANOPEN protocals.MOTEC intelligent steppers can be confirgured to work in network model and each of the drivers can have its own pre-programmed software running simutaneously and velocity generation can be setu up each respectively.



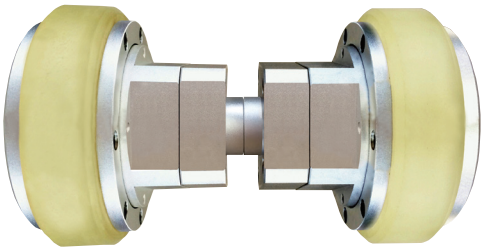
MOTEC® β AC Servo System

MOTEC® β Series AC Servo System have three types for customer's choice including Full Function Model,Standard Model and High Performance Model, which features high power density and compact size.MOTEC® β Series AC Servo System covers power range from 50W to 3KW and compatiable with MOTEC®servo motors, Panasonic servo motors, Tamagawa servo motors. MOTEC® β Series AC Servo system features integrated PLC function, CAN bus compatiable and servo motors support 2500PPR encoder, 23 bit single turn/multi-turn absolute encoder and resolver.

MOTEC® Electric Servo Cylinder



MOTEC® Electric Servo Cylinder is an intergration of servo motor and lead screw and it converts servo motors precise rotary motion to precise liner motion. MOTEC electric servo cylinder features high transmission efficiency,high resolution high reliability and safety, easy for maintenance, very low noise and long product life etc and it has been widely used in many industries including robots, labrotary equipments, welding machines, aviation testing equipments multi-axis simulator, valve control, CNC and multidimensional cinema etc.

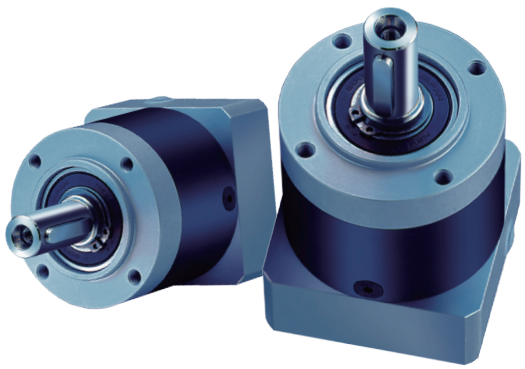


MOTEC® Servo Wheel System

MOTEC® Servo Wheel is an innovated products developed by MOTEC (China) with its own IP. It is a cutting edge product which is an integration of servo driver, motion controller and a creative mechelectric design, which is a idea for intelligent warehouse, AGV and robot applications with value for money features.MOTEC Servo Wheel System is equipped with custom-designed MOTEC® high performance servo drivers to achieve its best performance and reliability.

MOTEC® 5+ Axis CNC

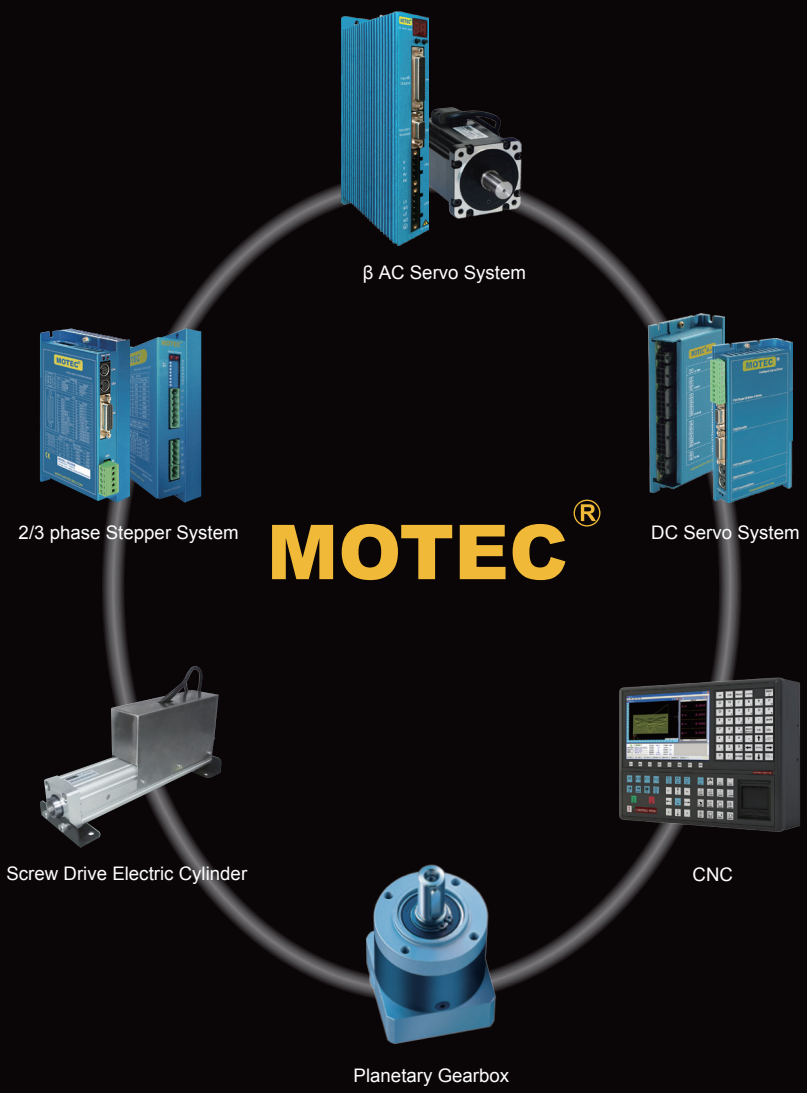
MOTEC® 5+ axis CNC is an extremly powerful and open CNC system which can control eight axis simutaneously either in single chanel mode or multi-channel mode. It supports pluse/direction control mode, network control mode(compatiable with various of bus&protocals) with integrated PLC function. It comes with powerful program software with which users can use standard G code and M function to build up their own application easily. Users can even order custom designed user-interface software from MOTEC though the standard one is a user-friendly graphic interface. The system features very short interpolation period, visiable PID setting function, electronic CAM etc.



MOTEC® Planetary Gearbox

Planetary Gearbox is widely used high precision device designed to increase outport torque and reduce equivalent moment of inertia by reducing rotating speed with high efficiency(over 96%). MOTEC has developed hundres of models under four series over the decades and tens of thousands MOTEC gearbox have been used in various industriesincluding aviation,CNC,welding, cutting, packing, printing. MOTEC planetary gearbox has economy and high precision models for customer's choice. Custom designed planetary gearbox is also available ie higher or lower woking temperature, special flange size, key input, double shafts,anchorbolt installtion, higher resolution etc.

MOTEC® ARES AC SERVO SYSTEM CATALOGUE



NORTION

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