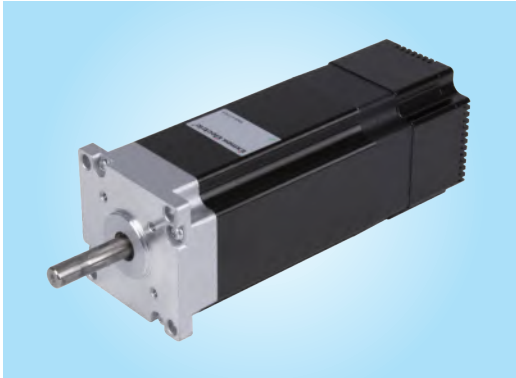


# MDS057 Series Smart Motor

## Description

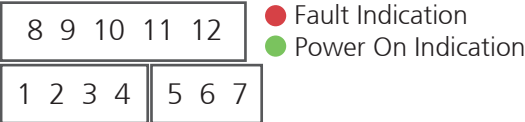
The smart motor solutions is for servo applications. This integrates a 57mm (NEMA 23) with a smart control module including speed mode, position mode, and torque mode. The controller provides RS485 and PULSE/DIR interface. Easy-to-use GUI software allows users to optimize the design flexibly online through the RS485 control interface. The smart motor is widely applied in AGV, Material handling, Robot and so on.



## General Information

- DC18-70V Input Voltage Range
- 94-188W Continuous Power Output
- 0.3° Position Resolution
- RS485 Interface and PULSE/DIR Interface
- Position, speed and torque control
- Operating Temperature: 0℃ - 70℃
- Selectable position, speed, and torque mode

## PIN Configuration



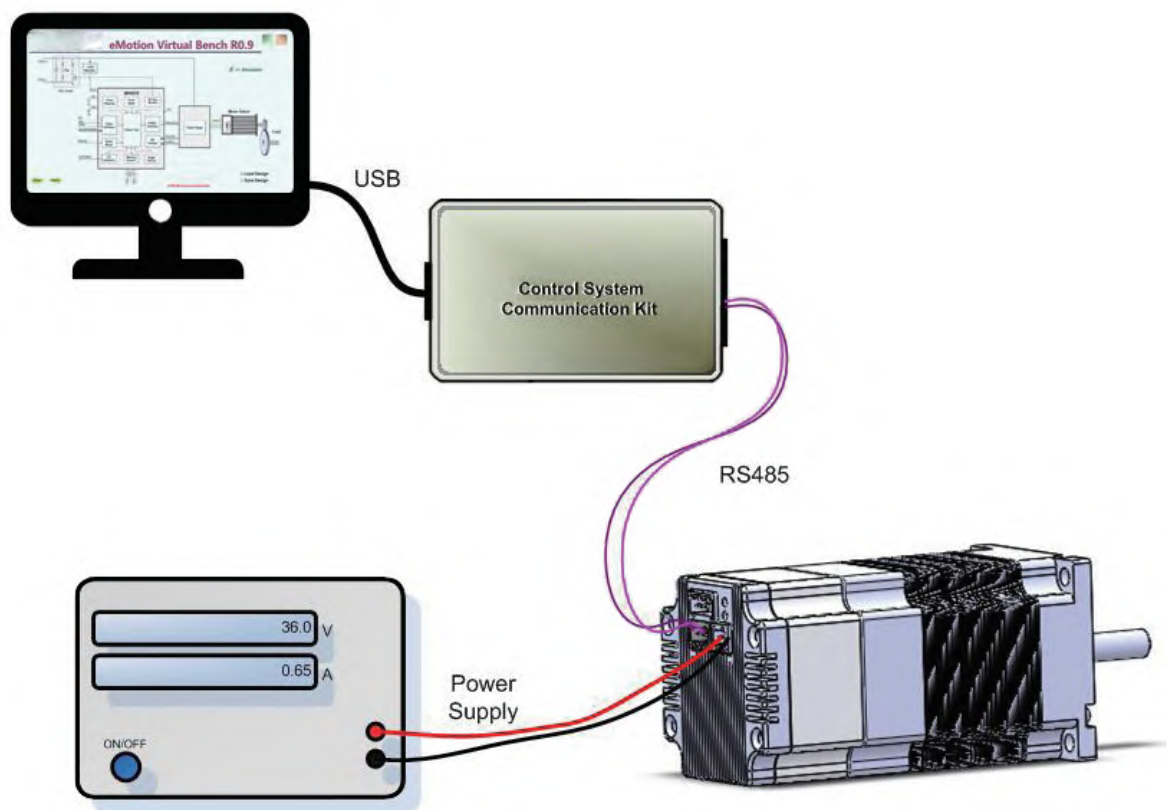
### Operation Conditions

Input voltage ..... 18V to 70V  
 Control interface voltage ..... 0V to 5.5V  
 Max pulse frequency ..... 500kHz  
 RS485 A/B voltage ..... 0V to 5.5V  
 RS485 common mode voltage ..... ±15V  
 Operation temperature..... 0℃ to 70℃  
 Storage temperature ..... -40℃ to +125℃

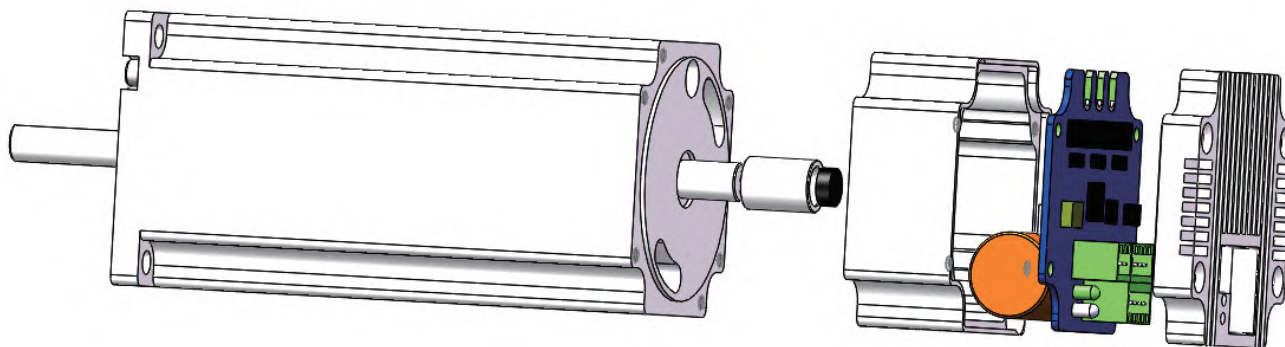
| PIN               | Designation | Description                       |
|-------------------|-------------|-----------------------------------|
| RS485 Interface   |             |                                   |
| 1                 | EXT_5V      | 5V Input For Firmware Programming |
| 2                 | B           | RS485 Node B                      |
| 3                 | AGND        | RS485 Ground                      |
| 4                 | A           | RS485 Node A                      |
| Power Interface   |             |                                   |
| 5                 | GND         | Power Ground                      |
| 6                 | R-          | Shunt Resistor Return Node        |
| 7                 | VIN         | Input Power Supply                |
| Control Interface |             |                                   |
| 8                 | COM-        | Common Return                     |
| 9                 | EN+         | Enable Input                      |
| 10                | PEND+       | Position End Output               |
| 11                | PUL+        | Pulse Input                       |
| 12                | DIR+        | Direction Input                   |

## MDS057 Series Smart Motor

- *Hardware connections for programming*



- *Mechanical Installation of PCB Assembly*



MDS057 Series Smart Motor

Specifications

|                        | Unit | MDS057-01 | MDS057-02 | MDS057-03 | MDS057-04 |
|------------------------|------|-----------|-----------|-----------|-----------|
| Voltage                | VDC  | 36        | 36        | 36        | 36        |
| Rated Speed            | RPM  | 3000      | 3000      | 3000      | 3000      |
| Rated ContinuousTorque | Nm   | 0.15      | 0.3       | 0.45      | 0.6       |
| Rated Current          | A    | 2         | 3.8       | 5.6       | 7.8       |
| Norminal Power         | W    | 47        | 94        | 141       | 188       |
| Length                 | mm   | 88        | 108       | 128       | 148       |

Mechanical

