

# MX-28AT / MX-28AR

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## Parts Photo

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[MX-28AT]



[MX-28AR]

- ※ Control Table's Compliance replaced by PID.
- ※ The control table's order for PID has changed to DIP from this version onwards. Please make reference of this change.
- ※ Although the MX-28AT (TTL) and MX-28AR (RS-485) differ in communications protocols both have the same features and perform equally. (TTL uses 3-pin connectors while RS-485 uses 4)

## H/W Specification

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- MCU : ST CORTEX-M3 ( STM32F103C8 @ 72MHZ,32BIT)
- POSITION SENSOR : Contactless absolute encoder (12BIT,360 DEGREE)
  - Maker : ams (www.ams.com), Part No : AS5045
- MOTOR : Maxon
- BAUD RATE : 8000 bps ~ 4.5 Mbps
- CONTROL ALGORITHM : PID CONTROL
- Resolution : 0.088°
- Running Degree
  - - 0° ~ 360°
    - Endless Turn
- Weight : 72g
- Dimension : 35.6mm x 50.6mm x 35.5mm
- Gear Reduction Ratio : 193 : 1
- Stall Torque
  - - 2.3N.m (at 11.1V, 1.3A),
    - 2.5N.m (at 12V, 1.4A)
    - 3.1N.m (at 14.8V, 1.7A)
- No load speed
  - - 50rpm (at 11.1V)
    - 55rpm (at 12V)
    - 67rpm (at 14.8V)
- Running Temperature : -5°C ~ +80°C
- **Voltage : 10 ~ 14.8V (Recommended Voltage 12V)**
- Command Signal : Digital Packet
- Protocol Type
  - - MX-28AT (Half duplex Asynchronous Serial Communication (8bit,1stop, No Parity))
    - MX-28AR (RS485 Asynchronous Serial Communication (8bit,1stop, No Parity))
- Link (Physical)
  - - MX-28AT (TTL Level Multi Drop Bus)
    - MX-28AR (RS485 Multi Drop Bus)
- ID : 254 ID (0~253)

- Feedback : Position, Temperature, Load, Input Voltage, etc.
- Material : Full Metal Gear, Engineering Plastic Body
- Standby current : 100 mA

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