

REFERENCE SPECIFICATIONS

MODEL AC Servo Motor (25 DC24 V)
MMMA - ACF1A (20 bit absolute encoder)

Issued on Apr.18.2016
Changed on . . .

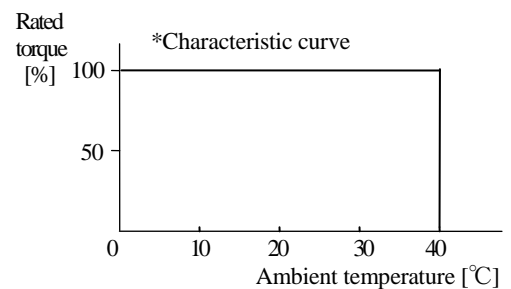
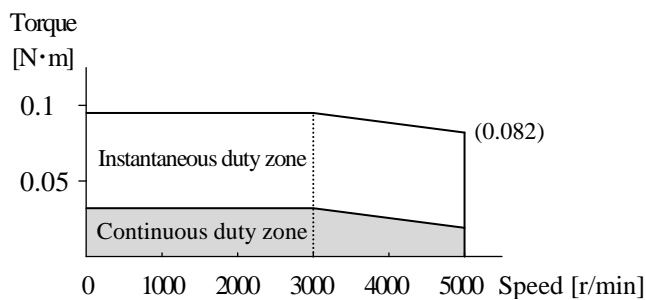
Motor Business Unit, Electromechanical Control Business Division,
Automotive & Industrial Systems Company, Panasonic Corporation

7-1-1 Morofuku, Daito-City, Osaka 574-0044, Japan

AC Servo Motor Specification

| Motor model | | MMMA1ACF1A (Without brake) | | |
|------------------------|--|--------------------------------------|--|------------------|
| Rated output | W | 10 | | |
| Rating | % | 100 | | |
| Rated speed | r/min | 3000 | | |
| Max. speed | r/min | 5000 | | |
| Rated torque | N·m | 0.032 | | |
| Max. torque | N·m | 0.095 | | |
| Rated current | A(rms) | (2.29) | | |
| Rotor inertia | $\times 10^{-4} \text{ kg} \cdot \text{m}^2$ | 0.0019 | | |
| Momentary max. current | A(o-p) | (10.8) | | |
| Mass | kg | (0.12) | | |
| Structure | | Totally-enclosed self-cooled type | | Without oil seal |
| Supply voltage | V _{DC} | 24 | | |

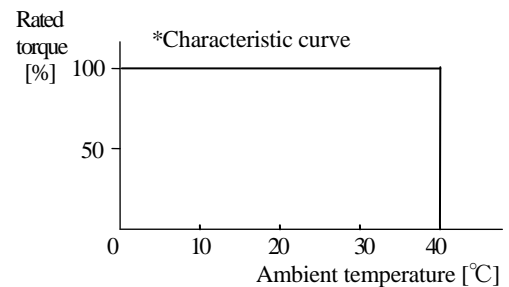
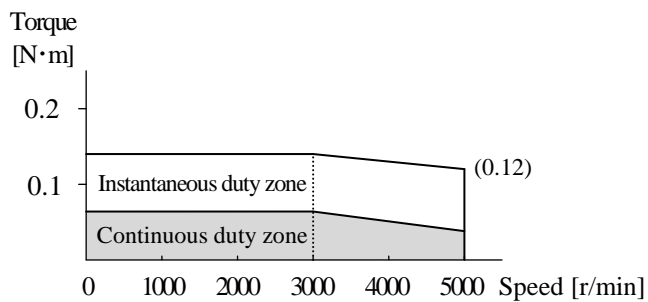
- This specification is guaranteed after combining and adjusting with the amplifier.
(Representative value at 20 °C)
- This motor is not a waterproof construction. (IP40)
- This motor does not have to acquire the safety standards (UL, CSA, CE).
- Speed - Torque characteristic (Representative value)
Amplifier power supply voltage : at DC 24 V



AC Servo Motor Specification

| Motor model | | MMMA2ACF1A (Without brake) | | |
|------------------------|--|--------------------------------------|--|------------------|
| Rated output | W | 20 | | |
| Rating | % | 100 | | |
| Rated speed | r/min | 3000 | | |
| Max. speed | r/min | 5000 | | |
| Rated torque | N·m | 0.064 | | |
| Max. torque | N·m | 0.140 | | |
| Rated current | A(rms) | (2.67) | | |
| Rotor inertia | $\times 10^{-4} \text{ kg} \cdot \text{m}^2$ | 0.0033 | | |
| Momentary max. current | A(o-p) | (9.45) | | |
| Mass | kg | (0.15) | | |
| Structure | | Totally-enclosed self-cooled type | | Without oil seal |
| Supply voltage | V _{DC} | 24 | | |

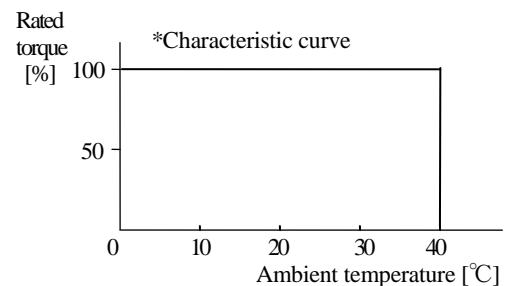
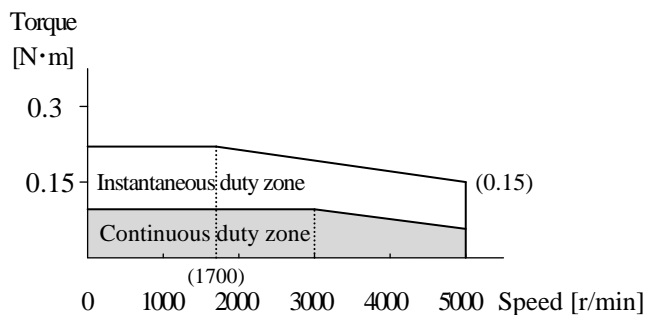
- This specification is guaranteed after combining and adjusting with the amplifier.
(Representative value at 20 °C)
- This motor is not a waterproof construction. (IP40)
- This motor does not have to acquire the safety standards (UL, CSA, CE).
- Speed - Torque characteristic (Representative value)
Amplifier power supply voltage : at DC 24 V



AC Servo Motor Specification

| Motor model | | MMA3ACF1A (Without brake) | | |
|------------------------|--|--------------------------------------|--|------------------|
| Rated output | W | 30 | | |
| Rating | % | 100 | | |
| Rated speed | r/min | 3000 | | |
| Max. speed | r/min | 5000 | | |
| Rated torque | N·m | 0.095 | | |
| Max. torque | N·m | 0.220 | | |
| Rated current | A(rms) | (2.83) | | |
| Rotor inertia | $\times 10^{-4} \text{ kg} \cdot \text{m}^2$ | 0.0047 | | |
| Momentary max. current | A(o-p) | (10) | | |
| Mass | kg | (0.18) | | |
| Structure | | Totally-enclosed self-cooled type | | Without oil seal |
| Supply voltage | V _{DC} | 24 | | |

- This specification is guaranteed after combining and adjusting with the amplifier.
(Representative value at 20 °C)
- This motor is not a waterproof construction. (IP40)
- This motor does not have to acquire the safety standards (UL, CSA, CE).
- Speed - Torque characteristic (Representative value)
Amplifier power supply voltage : at DC 24 V



Opponent connector (No belongings)

Motor connector (AMP)

Cap :172159-1
 Socket:170362-1
 or 170366-1

Detector connector (AMP)

Cap :172161-1
 Socket:170361-1
 or 170365-1

Rotary encoder unit

| PIN No. | Color | Signal |
|---------|----------|---------|
| 1 | Red | BAT + |
| 2 | Pink | BAT - |
| 3 | Shield | FG |
| 4 | Sky blue | PS (SD) |
| 5 | Violet | PS (SD) |
| 6 | — | NC |
| 7 | White | E5_V |
| 8 | Black | E0_V |
| 9 | — | NC |

*Absolute encoder
 20 bit

Motor unit

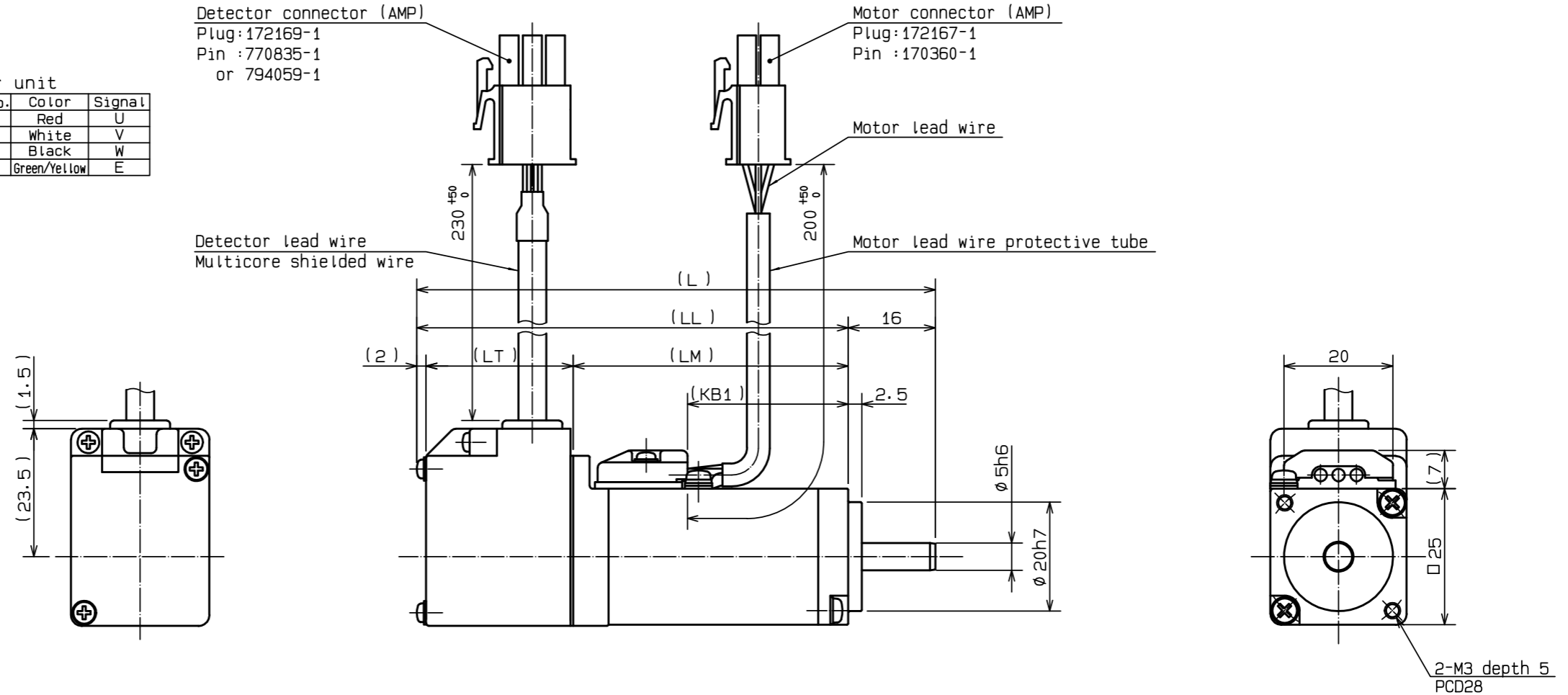
| PIN No. | Color | Signal |
|---------|--------------|--------|
| 1 | Red | U |
| 2 | White | V |
| 3 | Black | W |
| 4 | Green/Yellow | E |

Detector connector (AMP)

Plug:172169-1
 Pin :770835-1
 or 794059-1

Motor connector (AMP)

Plug:172167-1
 Pin :170360-1



| Model | Output (W) | L | LL | LM | LT | KB1 |
|------------|------------|----|----|----|----|-----|
| MMMA1ACF1A | 10 | 76 | 60 | 31 | 27 | 10 |
| MMMA2ACF1A | 20 | 86 | 70 | 41 | 27 | 20 |
| MMMA3ACF1A | 30 | 96 | 80 | 51 | 27 | 30 |

| | | |
|---|-------|-----------------|
| Panasonic Corporation 3rd Angle System Unit:mm | Model | MMMA□ACF1A |
| | Name | OUTLINE DRAWING |
| | No. | SX-DSV0310901 |