# Inverter CAN Protocol

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# Messages

## ID: 0x283, 0x284, 0x287 and 0x288 - AMK Actual Values 1

Inverter 1: 0x283, Inverter 2: 0x284, Inverter 3: 0x287, Inverter 4: 0x288

| Parameter | Value |
|---|---|
| Direction | Inverters -> Master |
| Transmission Rate | Periocally: 5ms |
| Size [bits : bytes] | 64, 8 |

| Variable Name | Offset [bit] | Length [bit] | Value Type | Unit | Description |
|---|---|---|---|---|---|
| AMK_Status | 0 | 16 | uint | - | Status word. See table in datasheet on page 60. |
| AMK_ActualVelocity | 16 | 16 | int | RPM | Actual speed value. |
| AMK_TorqueCurrent | 32 | 16 | int | - | Raw data for calculating *actual torque current* i_q. See page 80 in datasheet. |
| AMK_MagnetizingCurrent | 48 | 16 | int | - | Raw data for calculating *magnetizing torque current* i_d. See page 80 in datasheet. |

## ID: 0x285, 0x286, 0x289 and 0x28A - AMK Actual Values 2

Inverter 1: 0x285, Inverter 2: 0x286, Inverter 3: 0x289, Inverter 4: 0x28A

| Parameter | Value |
|---|---|
| Direction | Inverters -> Master |
| Transmission Rate | Periocally: 5ms |
| Size [bits : bytes] | 64, 8 |

| Variable Name | Offset [bit] | Length [bit] | Value Type | Unit | Description |
|---|---|---|---|---|---|
| AMK_TempMotor | 0 | 16 | int | 0.1 degC | Motor temperature |
| AMK_TempInverter | 16 | 16 | int | 0.1 degC | Cold plate temperature |
| AMK_ErrorInfo | 32 | 16 | uint | - | Diagnostic number |
| AMK_TempIGBT | 48 | 16 | int | 0.1 degC | IGBT temperature |

## ID: 0x184, 0x185, 0x188 and 0x189 - AMK Setpoints

Inverter 1: 0x184, Inverter 2: 0x185, Inverter 3: 0x188 , Inverter 4: 0x189

| Parameter | Value |
|---|---|
| Direction | Master -> Inverters |
| Transmission Rate | Periocally: 30ms |
| Size [bits : bytes] | 64, 8 |

| Variable Name | Offset [bit] | Length [bit] | Value Type | Unit | Description |
|---|---|---|---|---|---|
| AMK_Control | 0 | 16 | uint | - | Control word. See the table in datasheet. Page 61. |
| AMK_TargetVelocity | 16 | 16 | int | RPM | Speed setpoint |
| AMK_TorqueLimitPositive | 32 | 16 | int | 0.1 % M_N | Positive torque limit (subject to nominal torque) |
| AMK_TorqueLimitNegative | 48 | 16 | int | 0.1 % M_N | Negative torque limit (subject to nominal torque) |