**Serial port protocols**

**Protocols:**

|  |  |  |
| --- | --- | --- |
| Frame Identifier | Data | Checksum |
| 0~1byte | 2~5byte | 6~7byte |

**Send:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No. | Function | Frame Identifier | Data | Checksum |
| 1 | Run/Stop | R:0x1601  W:0x1B01  ( If CRC is wrong, return) | xxxxxx01/xxxxxx00 |  |
| Mode Selection: Speed/Torque | 10xxxxxx/01xxxxxx |  |
| Constant Speed Command/ Speed Curve Command | xx10xxxx/xx01xxxx |  |
| Constant Torque Command/  Torque Curve Command | xxxx10xx/xxxx01xx |  |
| 2 | Speed Command/Curve | R:0x1610  W:0x1B10 | IEEE 754 |  |
| 3 | Torque Command/Curve | R:0x1620  W:0x1B20 | IEEE 754 |  |
| 4 | Speed loop: S\_Kp | R:0x1611  W:0x1B11 | IEEE 754 |  |
| 5 | Speed loop: S\_Ki | R:0x1612  W:0x1B12 | IEEE 754 |  |
| 6 | Speed loop: S\_Saturation | R:0x1613  W:0x1B13 | IEEE 754 |  |
| 7 | Flux Command | R:0x1630  W:0x1B30 | IEEE 754 |  |
| 8 | Current loop: id\_Kp | R:0x1631  W:0x1B31 | IEEE 754 |  |
| 9 | Current loop: id\_Ki | R:0x1632  W:0x1B32 | IEEE 754 |  |
| 10 | Current loop: id\_\_Saturation | R:0x1633  W:0x1B33 | IEEE 754 |  |
| 11 | Current loop: iq\_Kp | R:0x1641  W:0x1B41 | IEEE 754 |  |
| 12 | Current loop: iq\_Ki | R:0x1642  W:0x1B42 | IEEE 754 |  |
| 13 | Current loop: iq\_\_Saturation | R:0x1643  W:0x1B43 | IEEE 754 |  |

**Receive:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No. | Function | Frame Identifier | Data | Checksum |
| 1 | Speed | 0x1A10 | IEEE 754 |  |
| 2 | Torque | 0x1A20 | IEEE 754 |  |
| 3 | Current: id | 0x1A30 | IEEE 754 |  |
| 4 | Current: iq | 0x1A40 | IEEE 754 |  |
| 5 | DC bus voltage | 0x1A50 | IEEE 754 |  |
| 6 | Array Data: ia | 0x1A60(Deleted) | IEEE 754 |  |
| 7 | Array Data: ib | 0x1A70(Deleted) | IEEE 754 |  |
| 8 | Array Data: ic | 0x1A80(Deleted) | IEEE 754 |  |
| 9 | Array Data: Reserved 1 | 0x1A90 | IEEE 754 |  |
| 10 | Array Data: Reserved 2 | 0x1AA0 | IEEE 754 |  |
| 11 | Lm | 0x1A01 | IEEE 754 |  |
| 12 | Rs | 0x1A02 | IEEE 754 |  |
| 13 | Lls | 0x1A03 | IEEE 754 |  |
| 14 | Rr | 0x1A04 | IEEE 754 |  |
| 15 | Llr | 0x1A05 | IEEE 754 |  |