ROS-GB-Protocol

Baut-rate : 115200
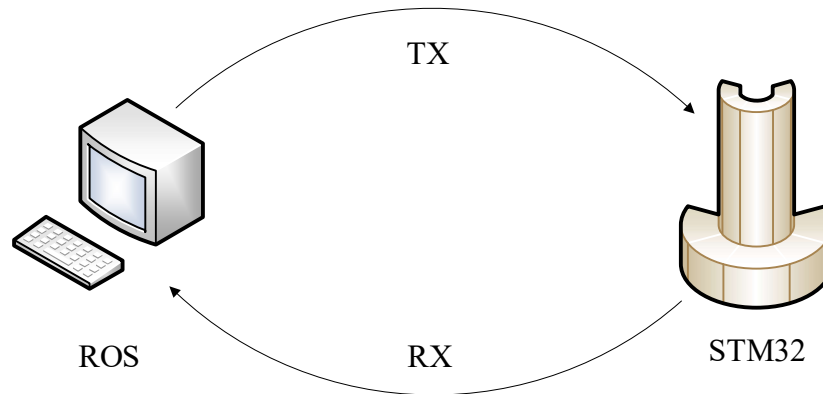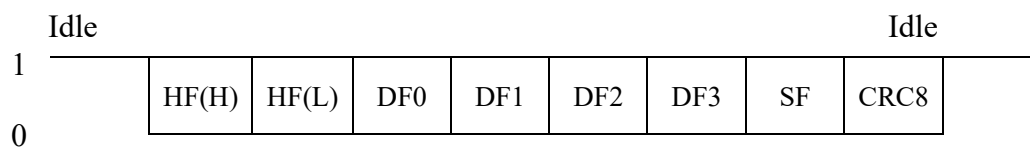

Figure1.1 Communication Format

1 Rx Field

(1) HF(H): fixed 0xA5

(2) HF(L): fixed 0x5A

1.1 Data Filed

DF0~DF1: angle of board +/- 180°. Data type int, resolution 15bits. 16 of bits is sign bit.

Eg.

    DF0 = 0x0E

    DF1 = 0x3F

    Angle = 0x0E3F / 32767 * 180 = 20.03418°

DF2~DF3: force of board +/- 2Nm. Data type int, resolution 15bits. 16 of bits is sign bit.
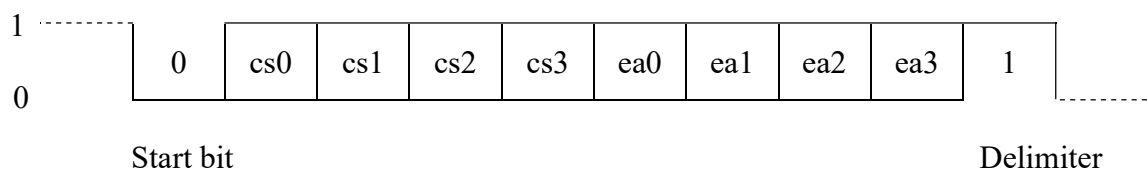
Eg.

    DF2 = 0xFE

    DF3 = 0x57

    Force = (int_16)0xFE57 / 32767 * 2 = -0.02594Nm

1.2 State Filed

0	cs0	cs1	cs2	cs3	ea0	ea1	ea2	ea3	1

Start bit   Delimiter

(1) Start bit: fixed.

(2) Gb error: Logic "1" is transmitted when any error occurs

Bit	ea0	ea1	ea2	ea3
Error Logic	1	1	1	1
Description	Sbt_timeout	Torque_overrun	Angle_overrun	Reserved

(3)Gb control status

Bit cs0:cs3 Control Status:

4bits(Hex)	Status Description
0x0	INITIAL
0x1	CALIBRATION
0x2	READY | RUNNING
0x3	ERROR
0x4	Reserved
0x5	Reserved
0x6	Reserved
0x7	Reserved

2 Tx Filed

(1) HF(H): fixed 0xA5

(2) HF(L): fixed 0x5A

2.1 CMD

CMD		DF0	DF1	DF2	DF3
0x01	Mode Control	Reserved	Main_mode	Reserved	Sub_mode
0x02	Data	Angle0	Angle1	Pose0	Pose1
0x03	Impedance setting	Kim0	Kim1	Dim0	Dim1