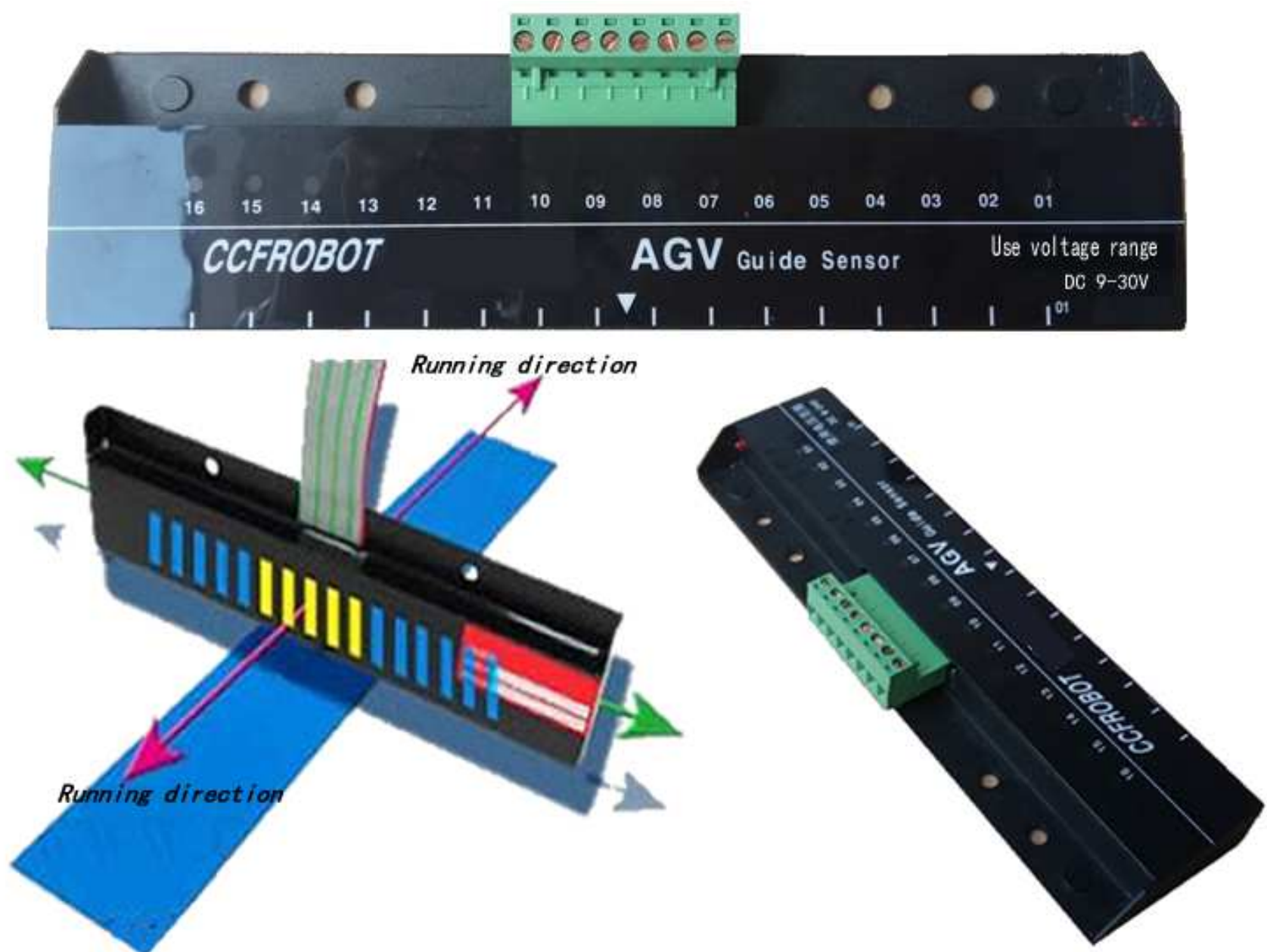# 16-bit magnetic navigation sensor manual CAN bus protocol

The sensor model to which this manual applies：CCF-N16-C2 , CCF-S16-C2

First, product description：

Supports CAN interface output;

Support baud rate setting and output rate setting;

Support output mode setting;

Standard 16-point uniform distribution, point spacing 10MM;

Signal status indicator display;

Power status indicator display;

Industrial three-proof design, wide voltage, low power consumption;

High sensitivity semiconductor Hall sensor;

Inductive magnetic pole: N pole or S pole optional;

Second, Electrical parameter description：

Supply voltage: DC 9 - 30V;

Maximum current consumption: 80mA;

Output interface: CAN bus interface;

Communication protocol: CAN2.0A/B;

Detection effective distance: 5 - 85mm;

Recommended installation height: 20 - 40mm;

Operating temperature range: -10 - +50 degrees;

Response speed: 1ms;

Third, Interface definition：
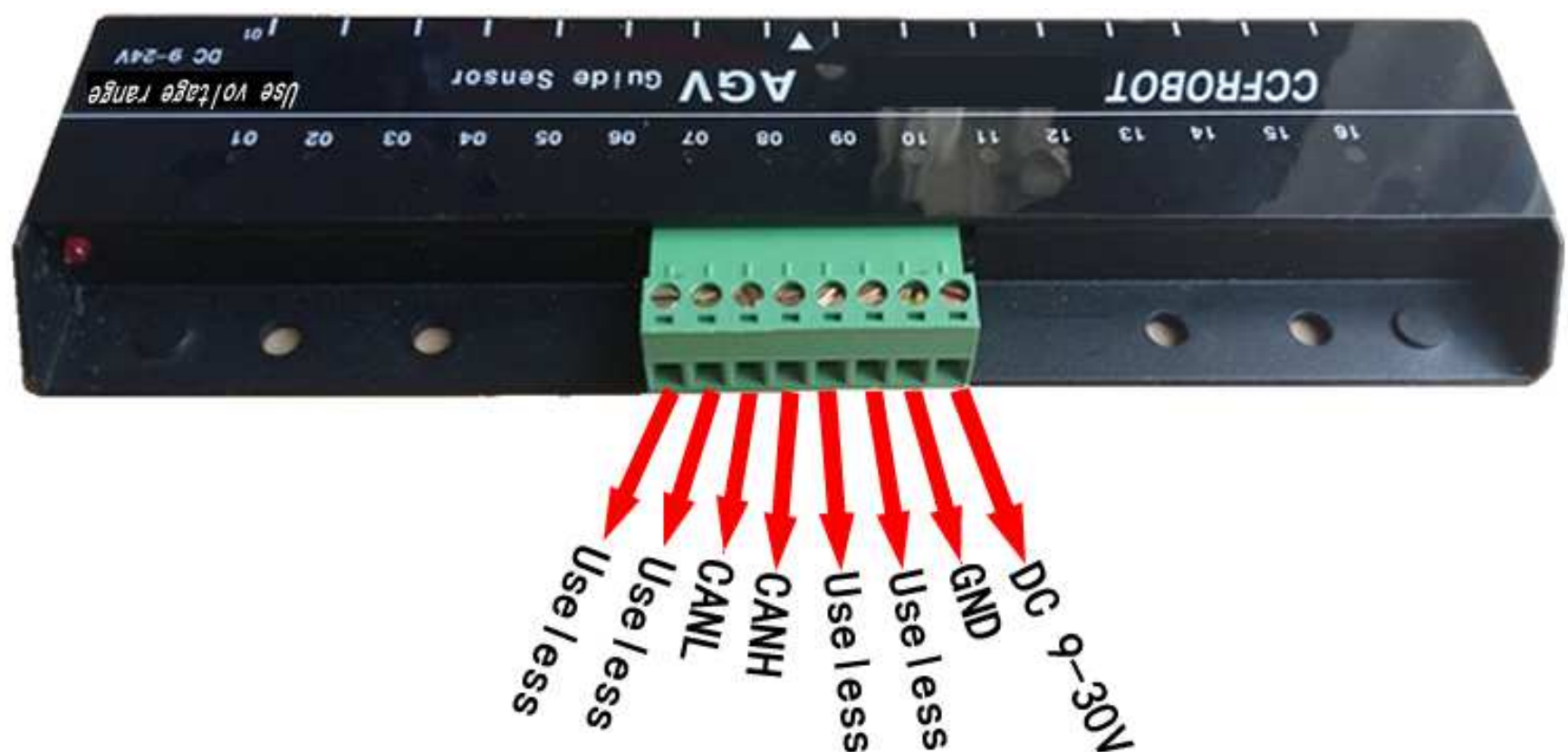
Fourth, Interface definition：
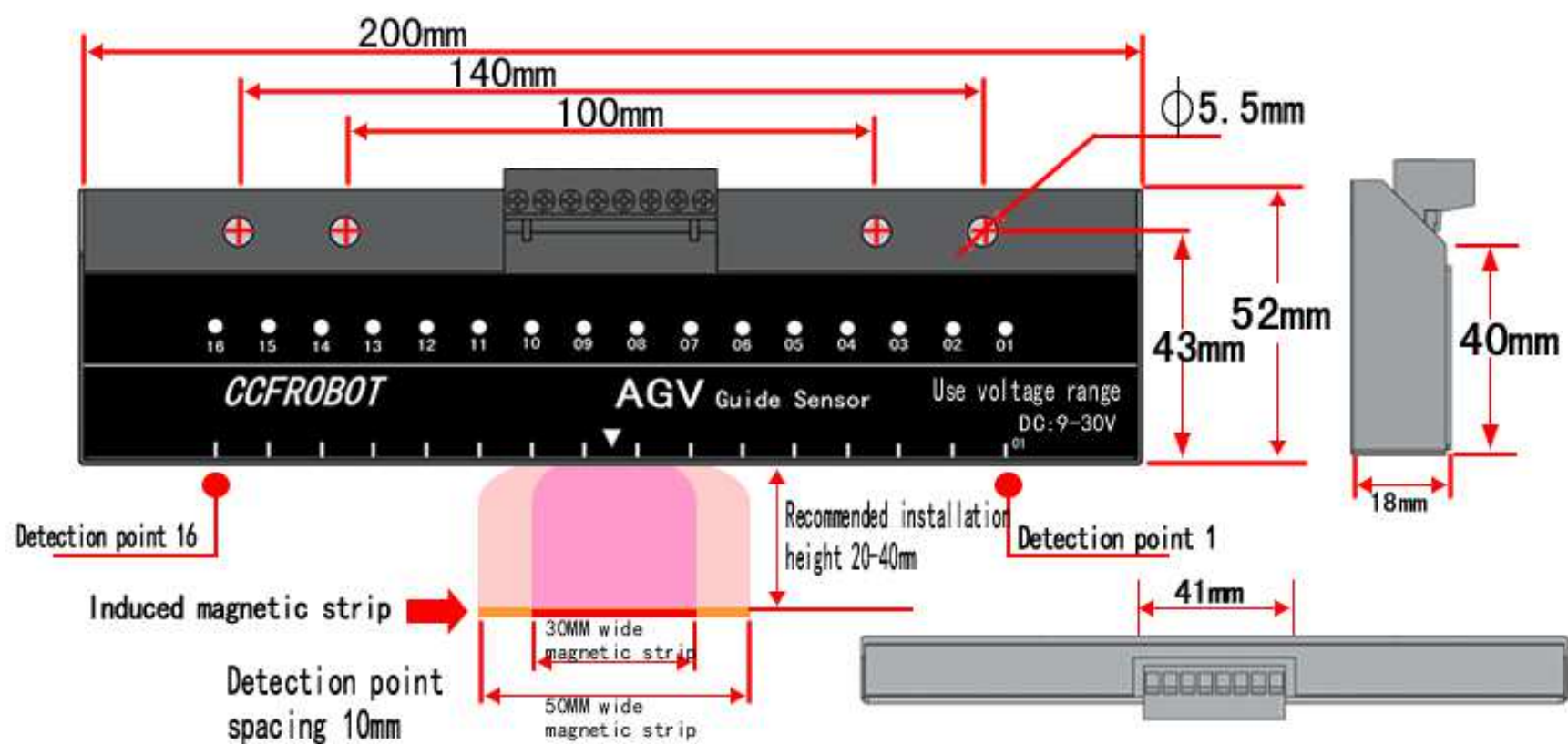
Fifth, communication format and communication protocol description:

1): Modify the node ID number, the ID bit width is 11 bits, the default node number is 0x05

Request packet format：

CAN-ID	First byte	Second byte	Third byte	Fourth byte	Fifth byte	Sixth byte	Seventh byte	Eighth byte
0x600+0x05	0x40	0x10	0x10	0x00	Node_ID	0x00	0x00	0x00

Reply message format：

CAN-ID	First byte	Second byte	Third byte	Fourth byte	Fifth byte	Sixth byte	Seventh byte	Eighth byte
0x580+0x05	0x40	0x10	0x10	0x00	Node_ID	0x00	0x00	0x00

Note: If controller sends CAN-ID=0x600+0x05, send data: 40 10 10 00 10 00 00 00 Sensor returns CAN-ID=0x580+0x05 (default), return data: 40 10 10 00 10 00 00 00 The frame ID received after power-on is 0x590 (0x580+0x10), indicating that the frame ID was successfully modified.

2): Set the CAN baud rate

Request packet format：

CAN-ID	First	Second	Third	Fourth	Fifth	Sixth	Seventh	Eighth

	byte	byte	byte	byte	byte	byte	byte	byte
0x600+0x05	0x40	0x20	0x10	0x00	Baud	0x00	0x00	0x00

Reply message format：

CAN-ID	First byte	Second byte	Third byte	Fourth byte	Fifth byte	Sixth byte	Seventh byte	Eighth byte
0x580+0x05	0x40	0x20	0x10	0x00	Baud	0x00	0x00	0x00

Note: The fifth byte (Baud) is 0x01, 0x02, 0x03, 0x04, 0x05. 0x01 stands for baud rate 100K bps. 0x02 represents setting baud rate 125K bps, 0x03 represents setting baud rate 250K bps, 0x04 represents setting baud rate 500K bps (default), 0x05 represents setting baud rate 1000K bps, after sending this command and receiving returned data, The sensor needs to be powered on again, and the baud rate can be changed successfully;

3): Set the output mode：

Request packet format：

CAN-ID	First byte	Second byte	Third byte	Fourth byte	Fifth byte	Sixth byte	Seventh byte	Eighth byte
0x600+0x05	0x40	0x30	0x10	0x00	Mod	0x00	0x00	0x00

Reply message format：

CAN-ID	First byte	Second byte	Third byte	Fourth byte	Fifth byte	Sixth byte	Seventh byte	Eighth byte
0x580+0x05	0x40	0x30	0x10	0x00	Mod	0x00	0x00	0x00

Note: The third byte (Mod) is 0x01, 0x02. 0x01 represents the change output mode, 0x02 represents the continuous output mode (default). After sending this command and receiving the returned data, the sensor needs to be powered on again, and the output mode modification will be successful;

4): Data output analysis：

Message format：

CAN-ID	First byte	Second byte	Third byte	Fourth byte
0x580+0x05	Lower 8 bits	High 8 bits	0x00	0x00

================================END================================

Ordering information：

1. This sensor is divided into different interface output and communication protocol output. When ordering, please select according to the model specification comparison table. This model is applicable to the model: CCF-N16-C2 , CCF-S16-C2;

2. Use strictly in accordance with the instructions when using, so as to cause unnecessary losses;

3. Please cut off the power supply during fixed installation;

4. If you find that there is no output of the sensing signal, please observe whether the signal lamp is normally lit. If the normal lighting of the inspection line is correct and whether it is connected, the above problems cannot be solved. Please contact our technical personnel for communication and solution.

5. This sensor is warranted for one year and man-made damage is not covered by the warranty;

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