DN-20M Quick Start

V 1.0

ICP DAS CO., LTD.

1 Introduction

The DN-20M is the daughter board of PISO-PS600, PISO-VS600 and PMDK (Referred to as the main card after in this text) for Manual Pulse Generator (MPG) and FRnet. It connects with main card through one 20-20 SCSI II via CON1 connector.
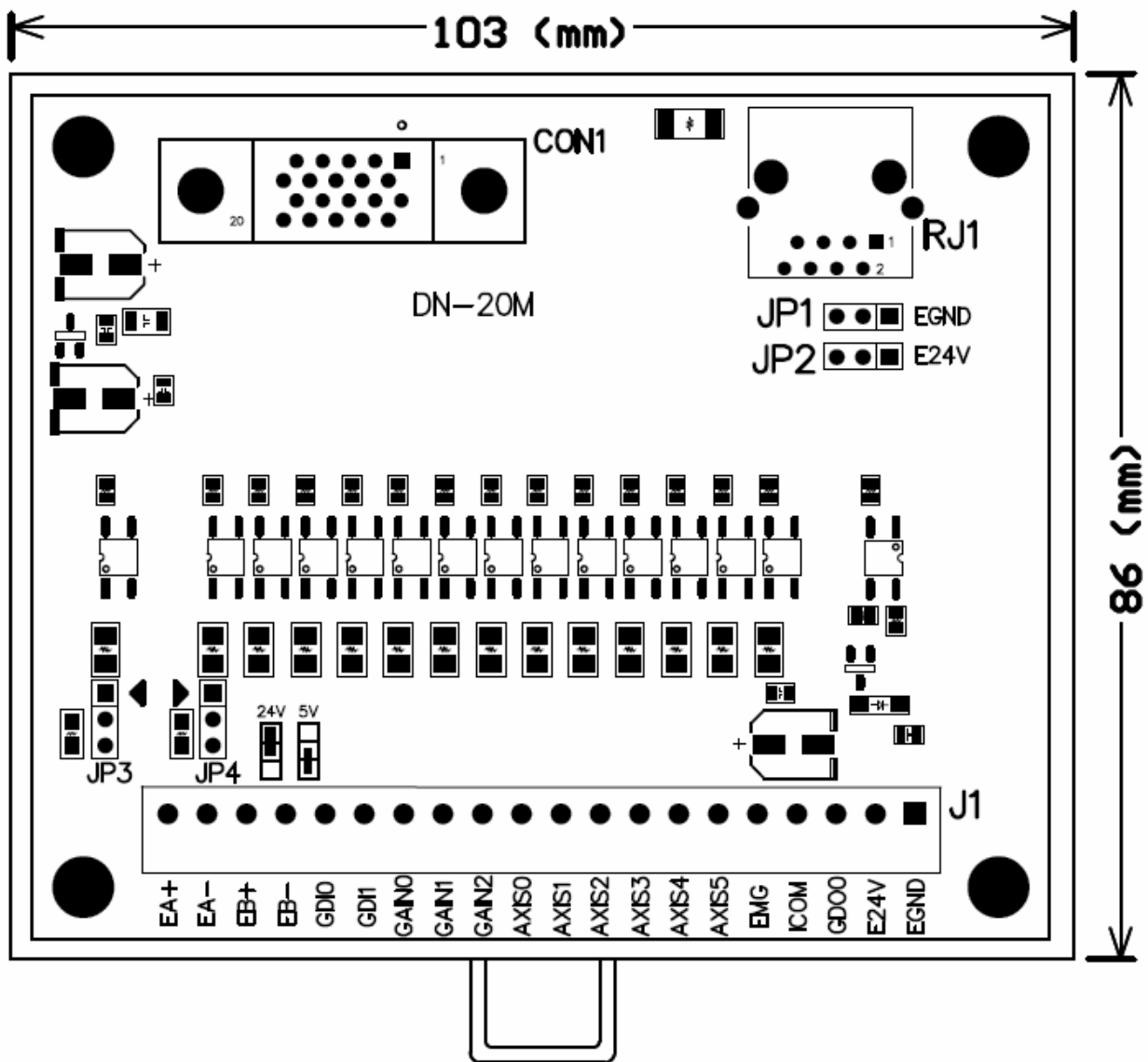
1.1 Board Layout for DN-20M

Fig. 1-1 Board layout for the DN-20M

1.2 Signal Connections for DN-20M

Assuring reliable connections is one of the most important tasks when sending or receiving data from your application system.
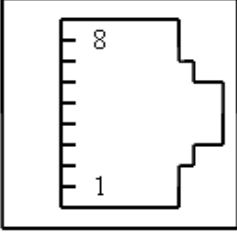
■ **CON1**

The connector CON1 is a 20-pin connector that enables you to connect sensors and motor drivers to the motion card of your Manual-Pulse-Generator and FRnet. The signal definitions are listed in Table 1-1. (For your reference only, this connector is connected with the control board directly; the user may not need to know the signal definition.)

Table 1-1

No.	Name	I/O	Function	No.	Name	I/O	Function
1	FR_A	O	FRnet A Phase	11	DGND	-	Digital Ground
2	FR_B	O	FRnet B Phase	12	MPG_EMG	I	MPG Emergency Stop
3	FR_GND	-	GND of FRnet Signal	13	GDI10 / MPG_Axis5	I	Generic Digital Input or MPG Axis Selection
4	GDI9 / MPG_Axis4	I	Generic Digital Input or MPG Axis Selection	14	GDI8 / MPG_Axis3	I	Generic Digital Input or MPG Axis Selection
5	GDI7 / MPG_Axis2	I	Generic Digital Input or MPG Axis Selection	15	GDI6 / MPG_Axis1	I	Generic Digital Input or MPG Axis Selection
6	GDI5 / MPG_Axis0	I	Generic Digital Input or MPG Axis Selection	16	GDI4 / MPG_Gain2	I	Generic Digital Input or MPG Magnification Selection
7	GDI3 / MPG_Gain1	I	Generic Digital Input or MPG Magnification Selection	17	GDI2 / MPG_Gain0	I	Generic Digital Input or MPG Magnification Selection
8	GDI1	I	Generic Digital Input	18	GDI0	I	Generic Digital Input
9	MPG_B	I	Manual Pulse Generator B Phase	19	MPG_A	I	Manual Pulse Generator A Phase
10	GDO0	O	Generic Digital Output	20	VCC	-	5V Digital Power from Bus

■ RJ1 (The I/O signals of the FRnet)

The connector RJ1 is an 8-pin RJ45 connector that enables you to connect to the signals of FRnet. Fig.1-2 Pin definition for RJ1 shows the pin assignment for the 8-pin connector on the DN-20M, and the table shows its I/O connector signal description.

Pin No.	Pin Name	Description
8	E24V or NC	External Power +24V or No connection, selected by JP2
7	E24V or NC	External Power +24V or No connection, selected by JP2
6	FR_B	FRnet port B
5	NC	No connection
4	NC	No connection
3	FR_A	FRnet port A
2	EGND or NC	External Power Ground or No connection, selected by JP1
1	EGND or NC	External Power Ground or No connection, selected by JP1

Fig. 1-2 Pin definition of RJ1

■ **J1**

This Connector is mainly used for connecting the manual-pulse-generator. The Table 1-2 shows its I/O connector signal description for the 20-pin connector of J1:

Table 1-2

Pin NO	Pin Define	Function description
1	EA+	Encoder A-phase(+) signal from the Manual-Pulse-Generator
2	EA -	Encoder A-phase(-) signal from the Manual-Pulse-Generator
3	EB+	Encoder B-phase(+) signal from the Manual-Pulse-Generator
4	EB -	Encoder B-phase(-) signal from the Manual-Pulse-Generator
5	GDI0	General purpose input signal
6	GDI1	General purpose input signal
7	GAIN0	Gain signal from the Manual-Pulse-Generator
8	GAIN1	Gain signal from the Manual-Pulse-Generator
9	GAIN2	Gain signal from the Manual-Pulse-Generator
10	AXIS0	Axis selection signal from the Manual-Pulse-Generator
11	AXIS1	Axis selection signal from the Manual-Pulse-Generator
12	AXIS2	Axis selection signal from the Manual-Pulse-Generator
13	AXIS3	Axis selection signal from the Manual-Pulse-Generator
14	AXIS4	Axis selection signal from the Manual-Pulse-Generator
15	AXIS5	Axis selection signal from the Manual-Pulse-Generator
16	EMG	Emergency Stop signal from the Manual-Pulse-Generator
17	ICOM	Common of all input signals
18	GDO0	General purpose output signal
19	E24V	External Power +24V input
20	EGND	External Power Ground

1.3 Jumper Settings

■ **JP1 and JP2**

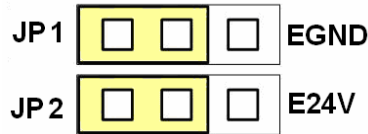Jumper 1 and 2 controls the power usage of RJ1. The following diagram shows the selection condition of the JP1 and JP2.

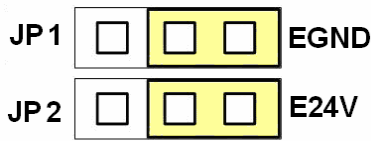**Fig. 1-3 JP1 and JP2 setting (without power on RJ1, Default setting)**

Fig. 1-4 JP1 and JP2 setting (With power on RJ1)

■ **JP3, JP4**

Jumper 3 and Jumper 4 control the power input signal of Manual-Pulse-generator (MPG) for 24V or 5V, please choose suitable setting according to the MPG that you used. The following diagram shows the selection condition of the JP3 and JP4.
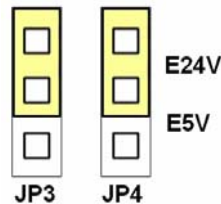

Fig. 1-5 EA and EB signals setting with 24V (Default setting is 24V)
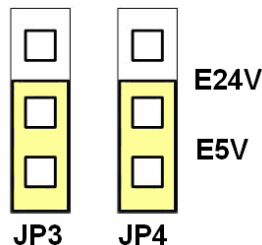

Fig. 1-6 EA and EB signals setting with 5 V

Technical Support

If you have problems about using this product, please contact ICP DAS Product Support.

Email: Service@icpdas.com