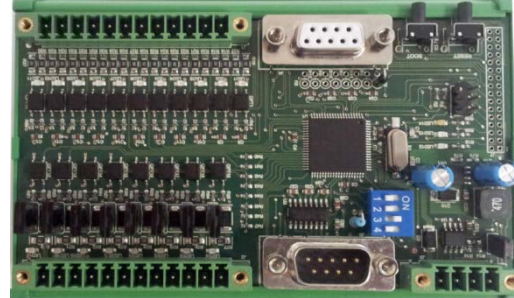


Ng Quark

FEATURES

The system NGQUARK is a numerical control based On the Free scale MCF5213 Cold Fire microprocessor. NGQUARK born as a standalone and can also be Used as SLAVE CANOPEN with appropriate firmware.

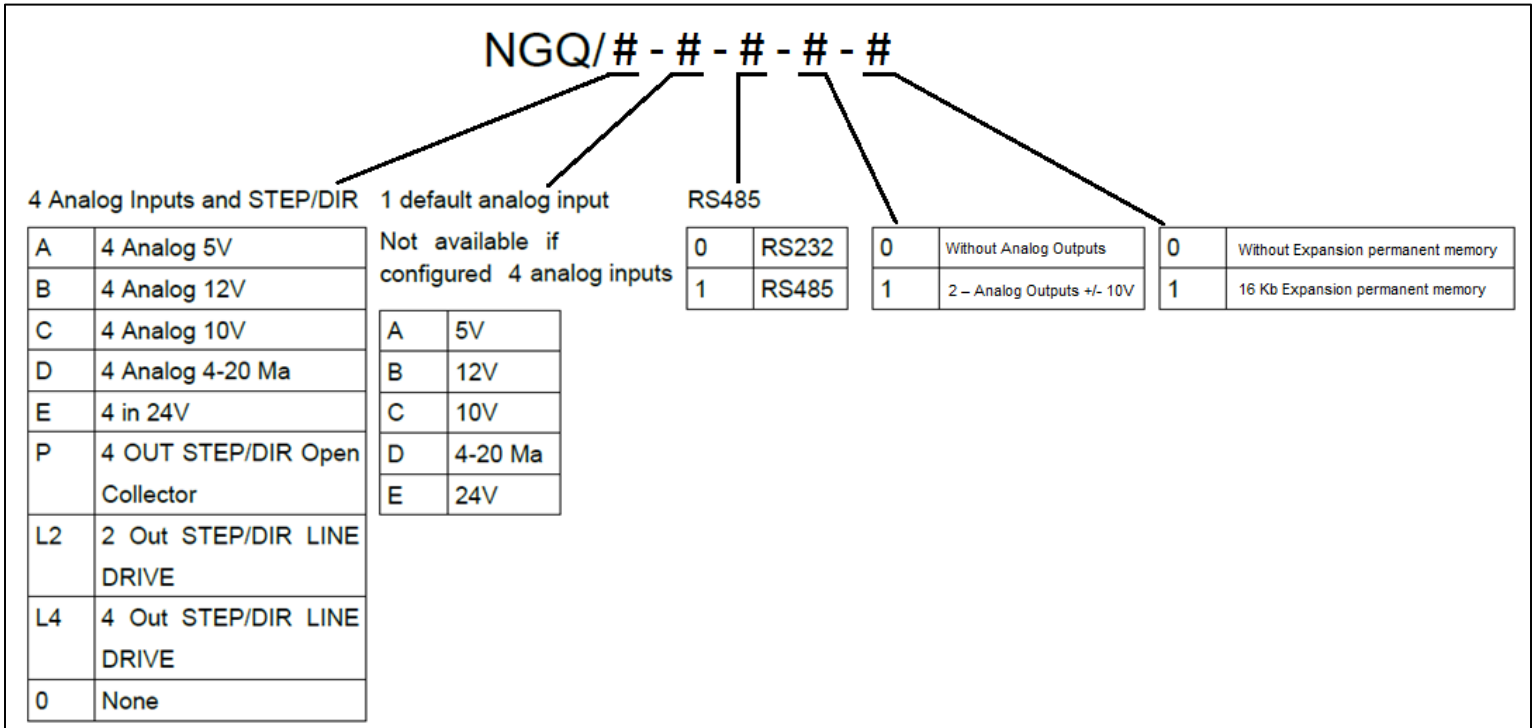
- Microprocessor type MCF 51JM128 to 48MHz
- 128 KbFlash
- 16 Kb RAM
- 2 serial ports RS232/RS485
- 1 port CAN OPEN
- 4 analog-inputs 12 bit configurable (5-10-12-24 Vdc) or (4-20mA)
- 11 Digital Inputs PNP 24 Vdc
- 8 Digital Outputs PNP 24 VDC 1 A
- 4 Outputs STEP/DIR 125 Khz total. Line Drive or Open Collector



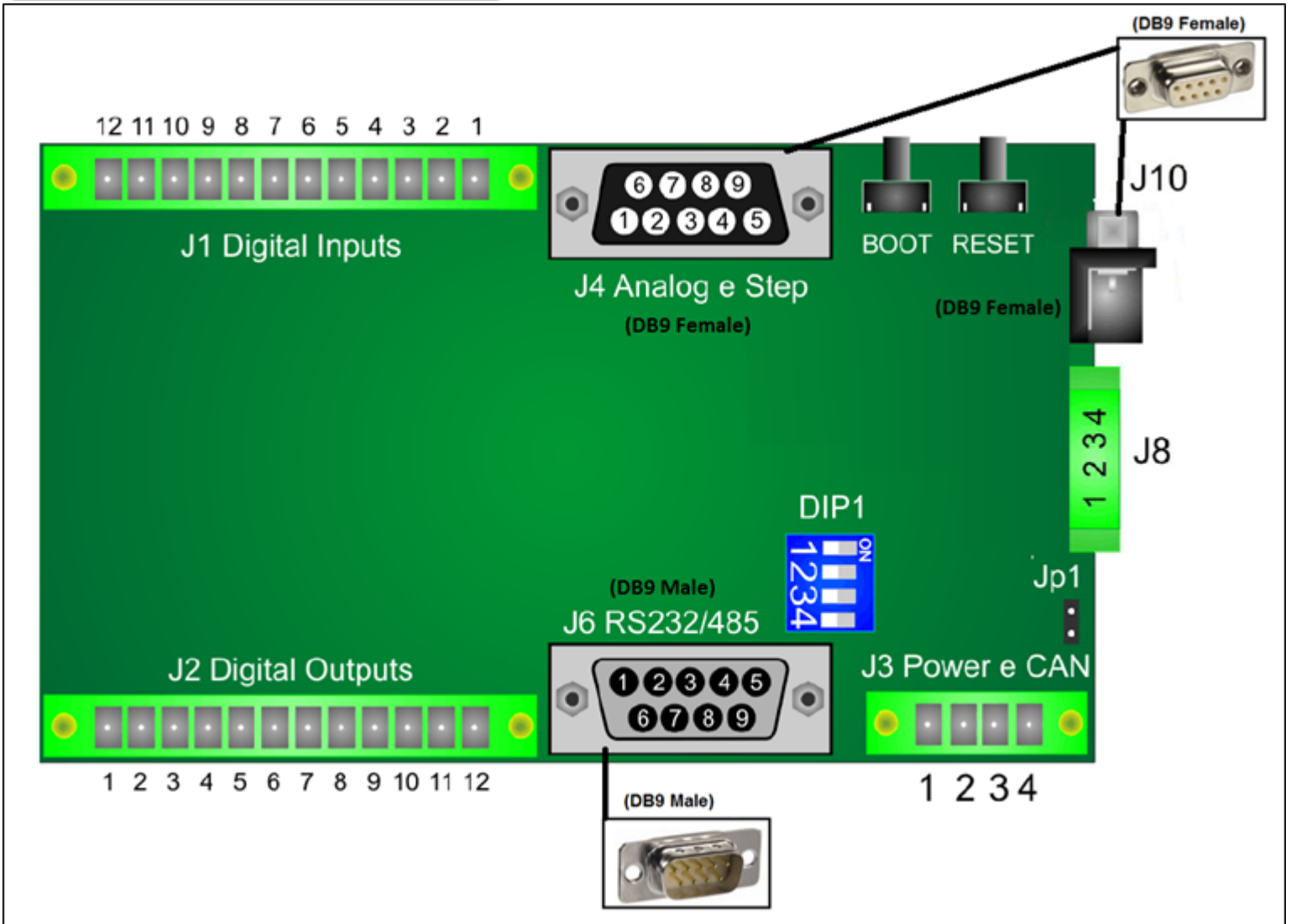
SPECIFICATIONS

NGQUARK	
CANopen	1 Master/Slave DS301 DS402
RS232	2 – RS232 1 / RS485
Digital Inputs	11 OPTO PNP 24 Vdc
Digital Outputs	8 OPTO PNP 24 Vdc 1 A
Analog Inputs	4 12 bit 5-10-12-24 V or 4-20 mA
Positioned Axes	4 STEP/DIR 120 KHz , 4 CANopen
Interpolated Axes	3 STEP/DIR 30 KHz
Temperature	From 0°C ~ 50°C
Power Supply	24 VDC
IP Level	IP 00

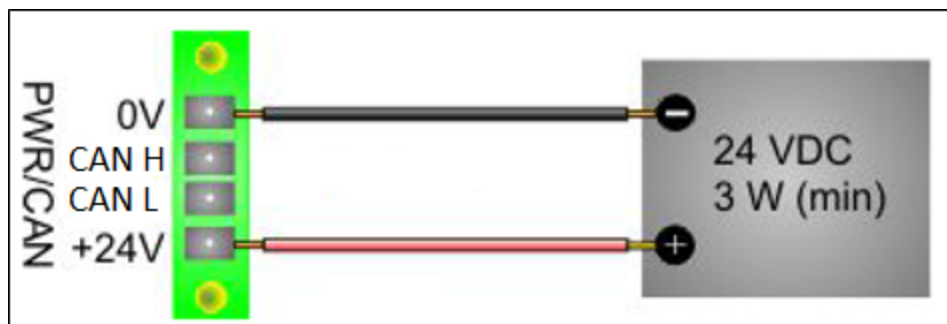
ORDER CODE



CONNECTION



J3 - POWER



J6 - COMMUNICATION PORT

J6 RS232/485

(DB9 Male)



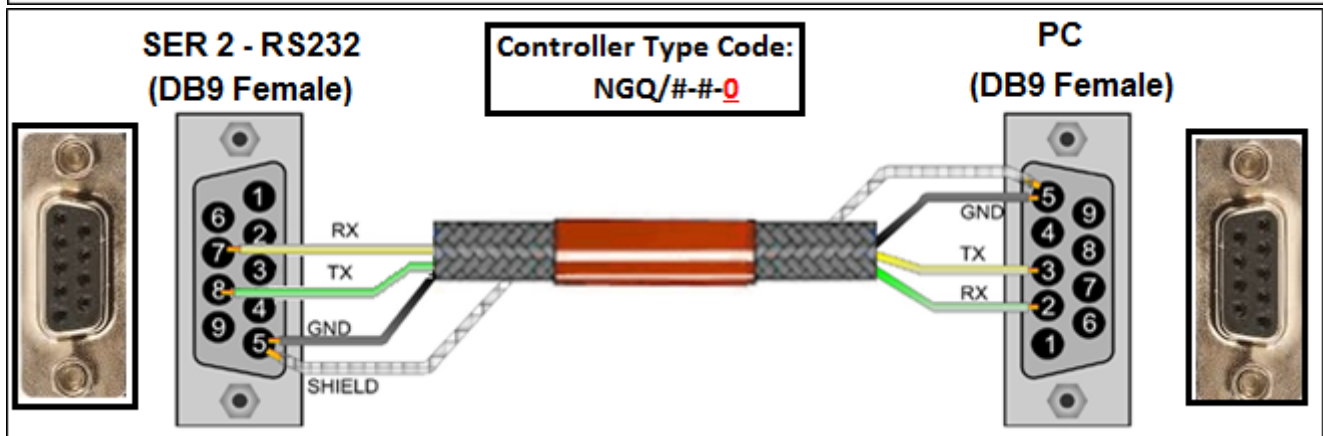
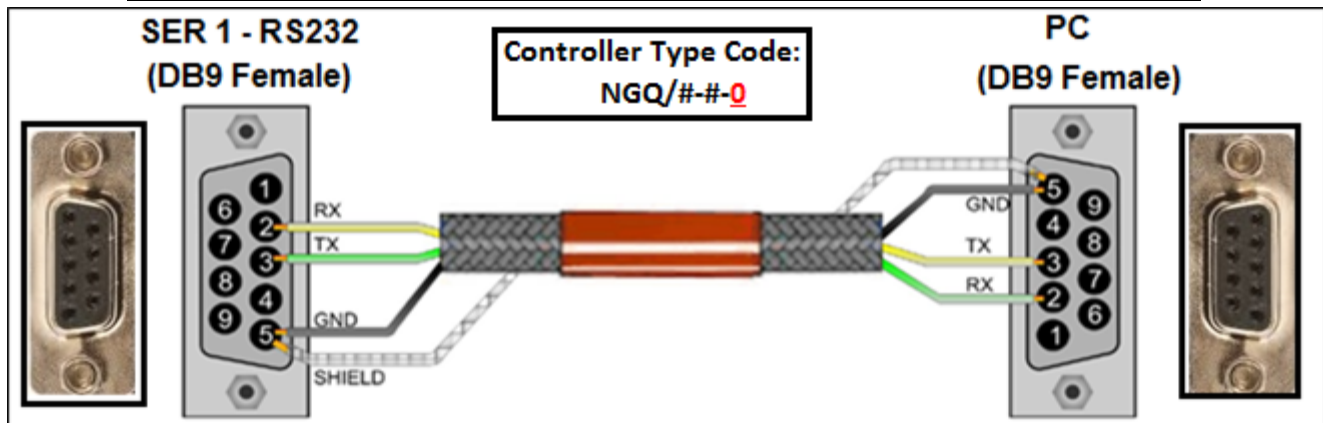
(DB9 Male)



NGQ WITH 2 RS232 PORT

Controller Type Code: NGQ/#-#-0

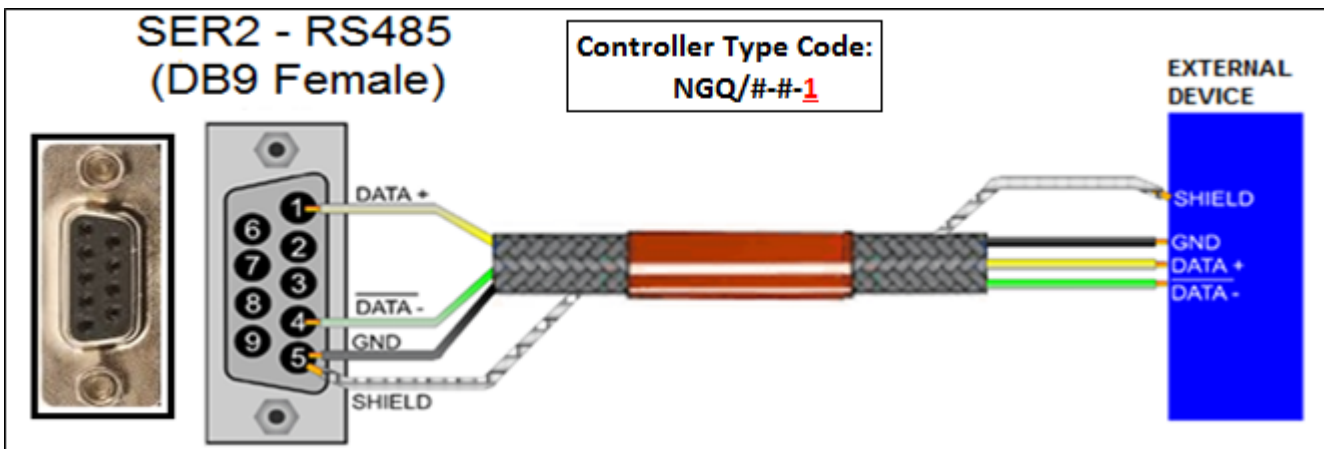
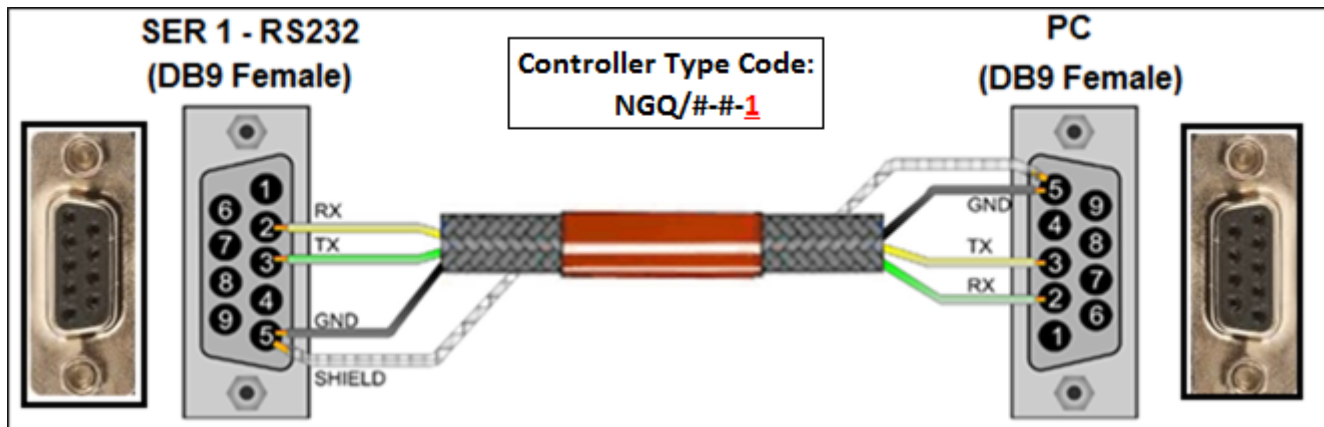
PIN Number	Description	PIN Number	Description
1	n.c	6	+3.3 Vdc
2	RX SER1	7	RX SER2
3	TX SER1	8	TX SER2
4	n.c	9	NG_ADC(0) (Default)
5	GND		



NGQ WITH RS232 & RS485 PORT

Controller Type Code: **NGQ/#-#-1**

PIN Number	Description	PIN Number	Description
1	RS485 +	6	+3.3 Vdc
2	RX SER1	7	n.c
3	TX SER1	8	n.c
4	RS485 -	9	NG_ADC(0) (Default)
5	GND		

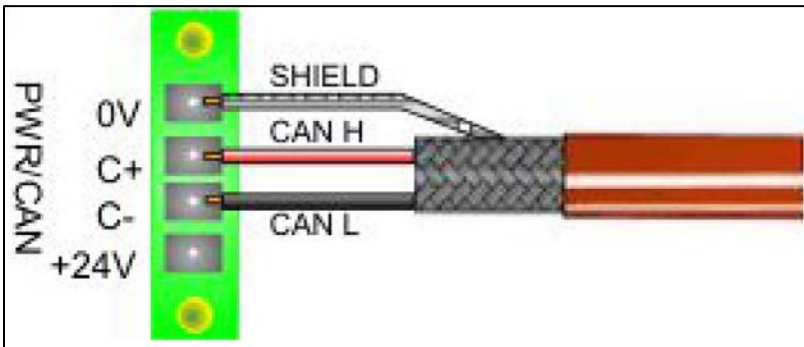


SER 1 & SER 2 DESCRIPTION

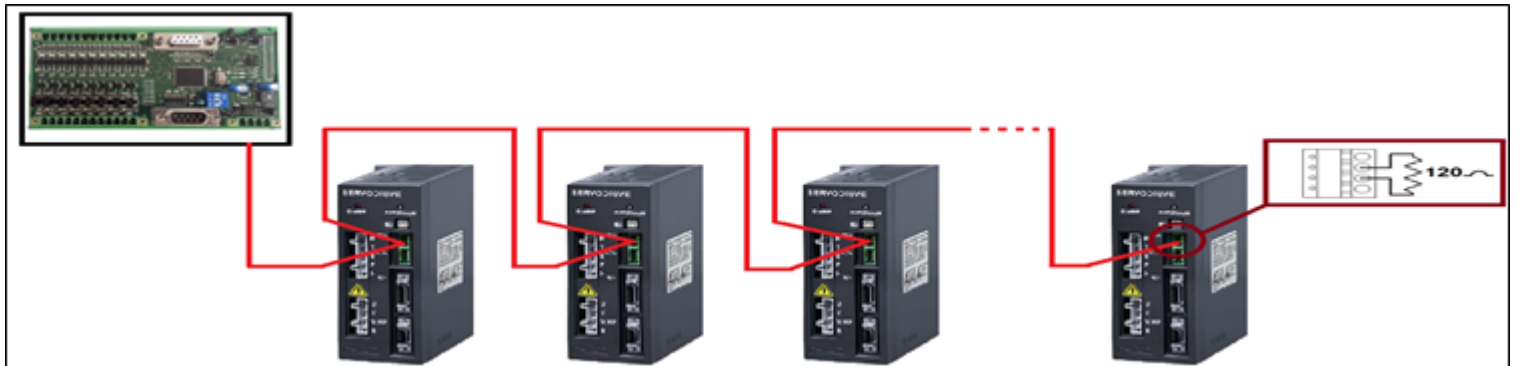
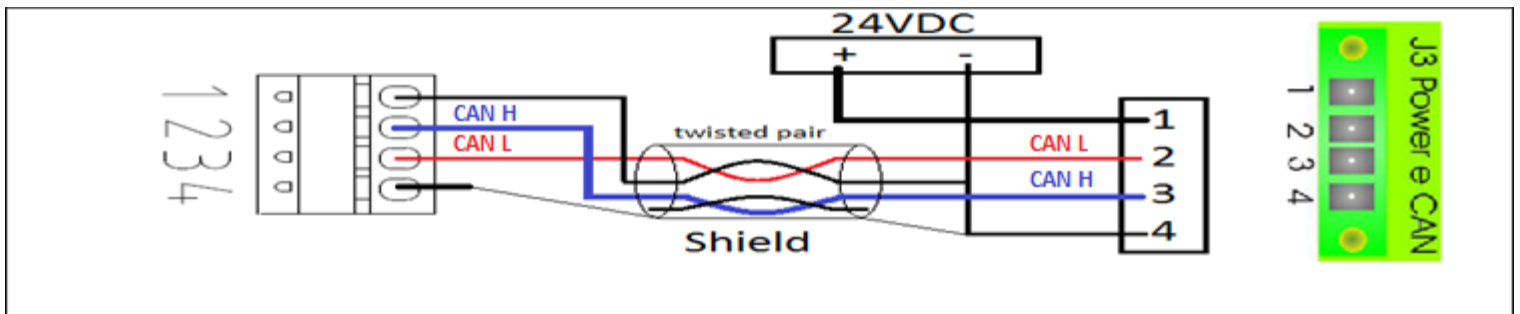
SER1 (Serial Port 1) use for VTB (Downloading the project & Debuging) and ISONS. If you want to use this port for VTB and ISONS you must set RPC as 1 (in VTB program).you can download VTB into the NGQ with Boot & Reset bit button.

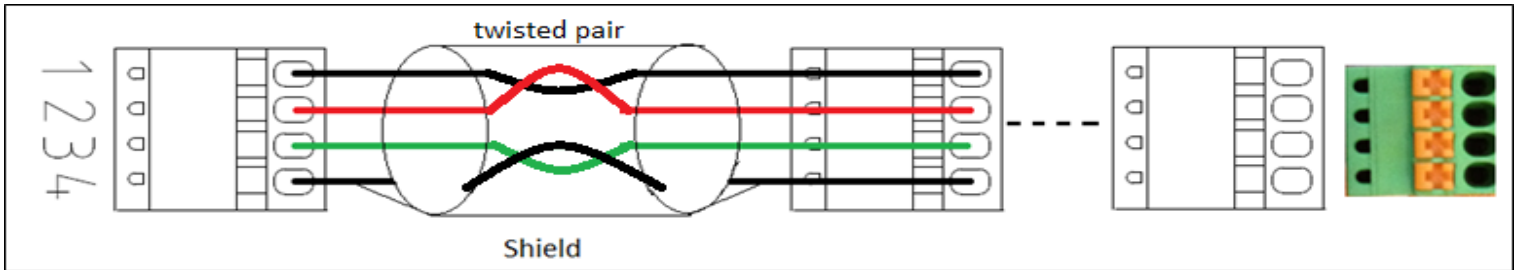
SER2 (Serial Port 2) use for just ISONS or Other device such as PLC , inverter . .if you want to use this port you must set RPC as 2 (in VTB program)

J3 - CANBUS

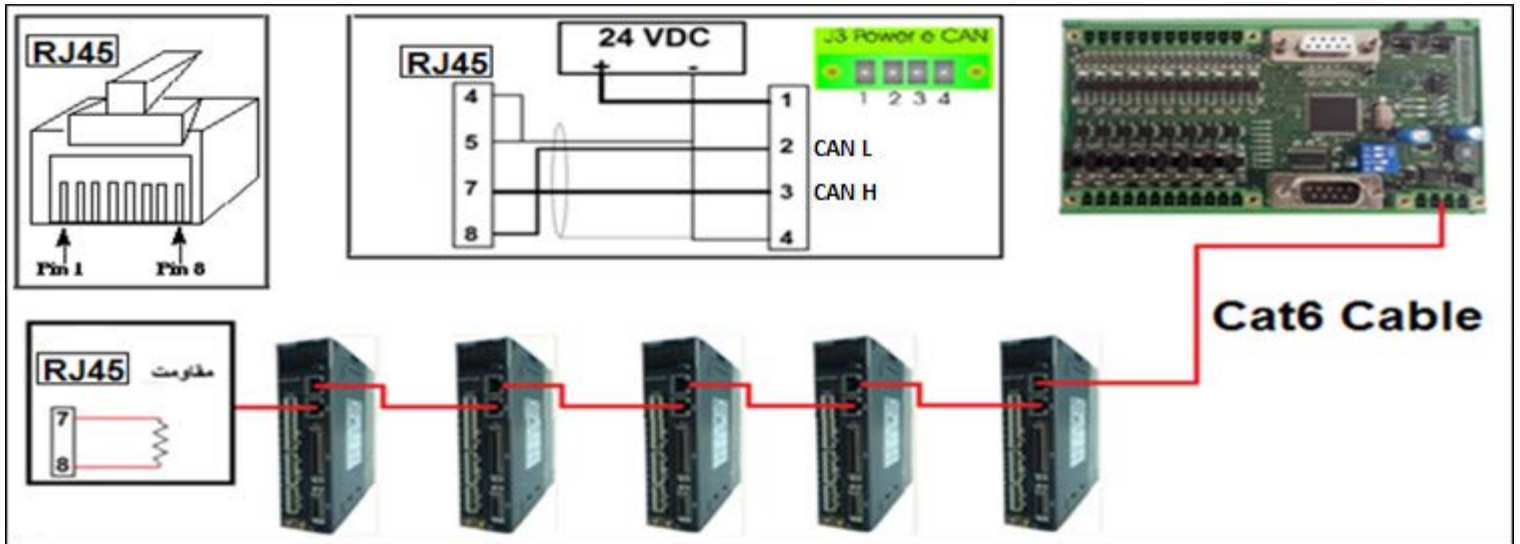


EDC CANBUS CONNECTION

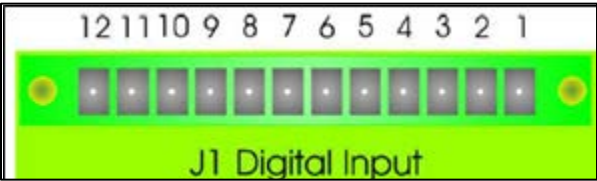




PRONET CANBUS CONNECTION



J1 - DIGITAL INPUT



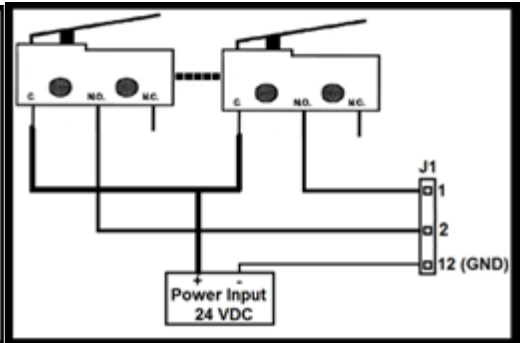
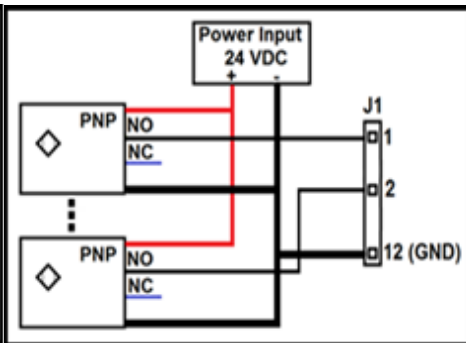
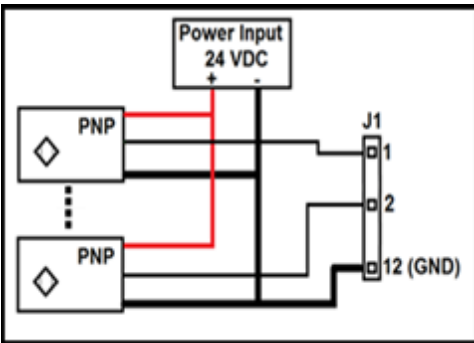
PIN Number	Description	PIN Number	Description
1	Inp 0	7	Inp 6
2	Inp 1	8	Inp 7
3	Inp 2	9	Inp 8
4	Inp 3	10	Inp 9
5	Inp 4	11	Inp 10
6	Inp 5	12	GND

DIGITAL INPUT WIRING

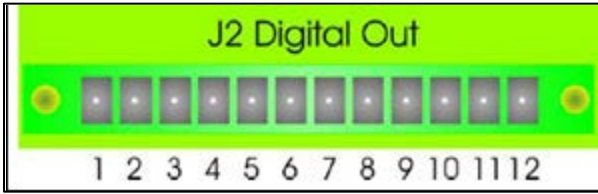
PNP SENSOR 2 WIRE

PNP SENSOR 3 WIRE

MICROSWITCH

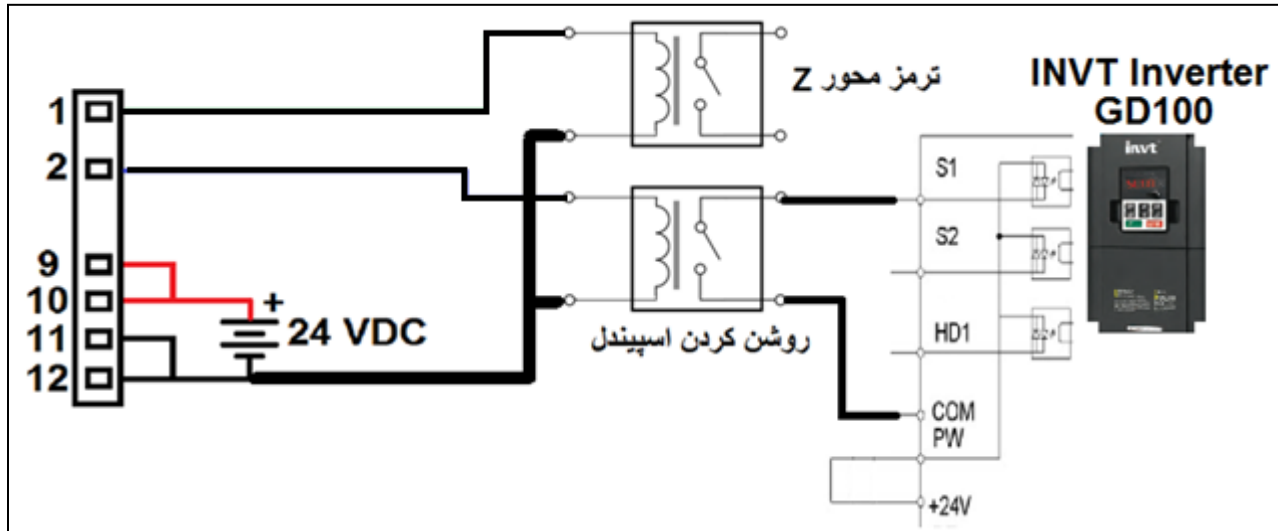


J2 - DIGITAL OUTPUT

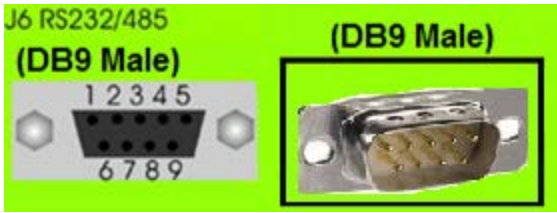


PIN Number	Description	PIN Number	Description
1	Out 0	7	Out 6
2	Out 1	8	Out 7
3	Out 2	9	+24 Vdc
4	Out 3	10	+24 Vdc
5	Out 4	11	GND
6	Out 5	12	GND

DIGITAL OUTPUT WIRING



J6 AS DEFAULT ANALOG INPUT

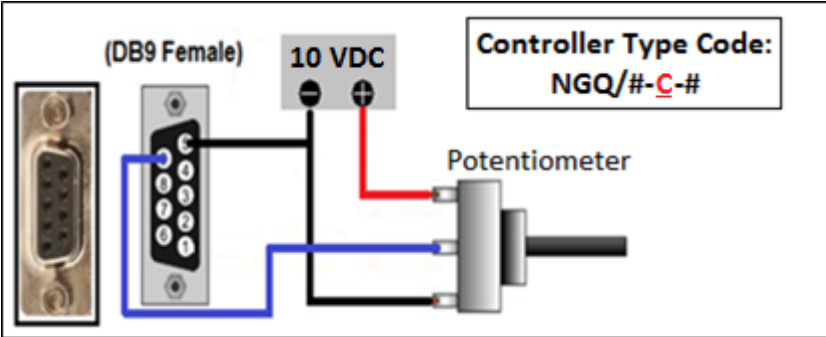
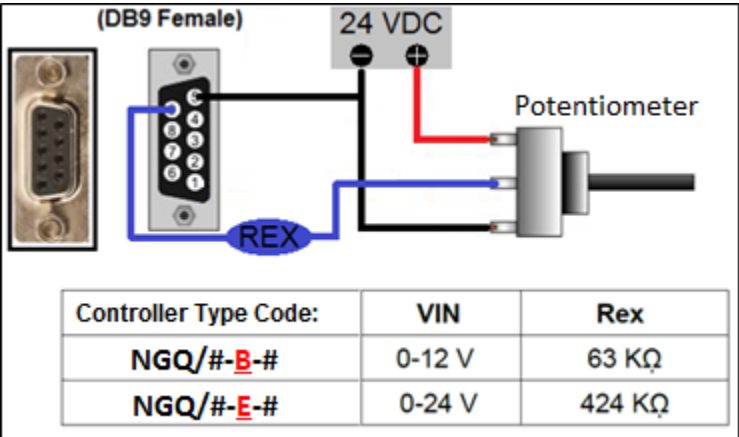


Controller Type Code:

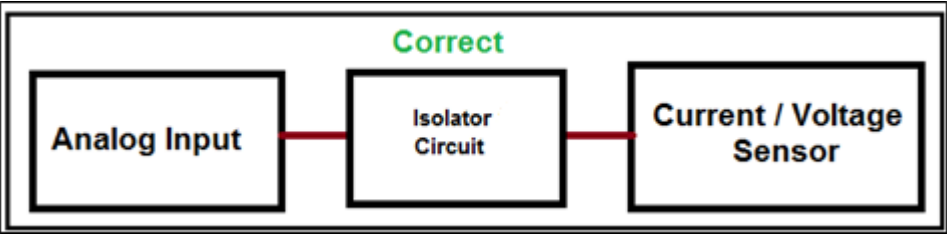
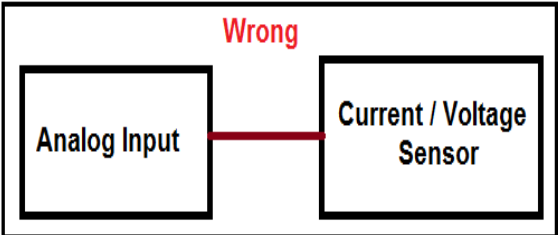
- NGQ/ #-A-#
- NGQ/ #-B-#
- NGQ/ #-C-#
- NGQ/ #-D-#
- NGQ/ #-E-#

PIN Number	Description
5	GND
6	+3.3 Vdc
7	RX SER2
8	TX SER2
9	NG_ADC(0) (Default)

For Example:



WARNING : DONOT CONNECT THE SENSOR DIRECT TO THE ANALOG INPUT , YOU MUST HAVE ISOLATOR CIRCUIT TO ISOLATE CIRCUIT (VOLTAGE / CURRENT).



J4 - AS ANALOG INPUT

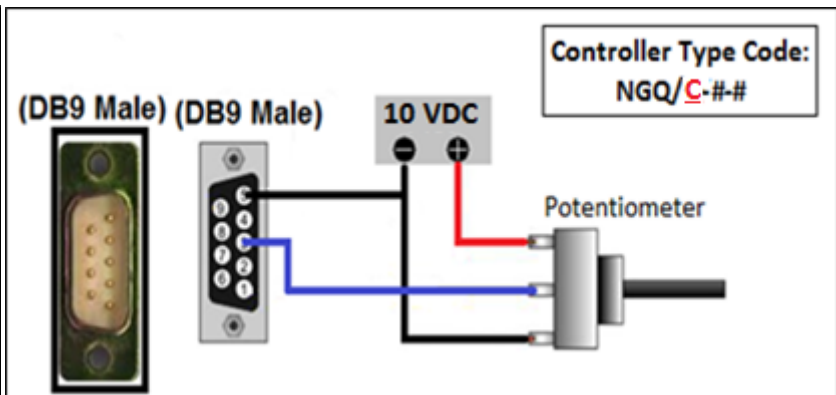
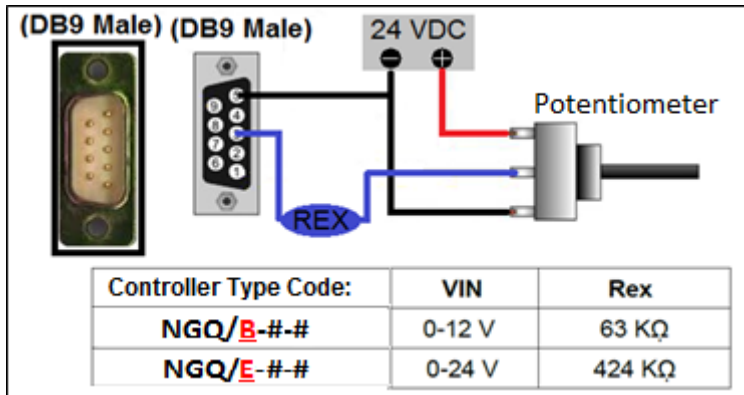


Controller Type Code:

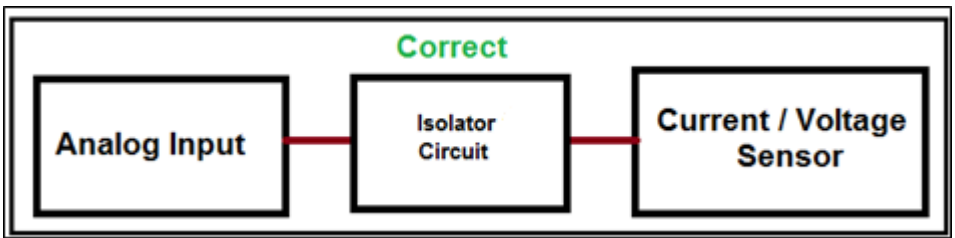
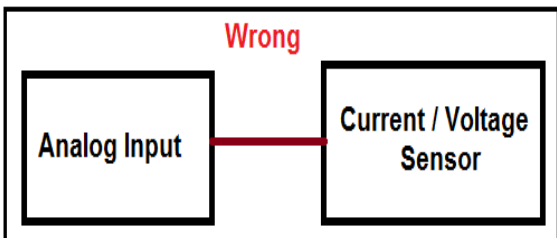
- NGQ/A-#-#
- NGQ/B-#-#
- NGQ/C-#-#
- NGQ/D-#-#
- NGQ/E-#-#

PIN Number	Description	PIN Number	Description
1	n.c	6	n.c
2	n.c	7	n.c
3	NG_ADC(3)	8	NG_ADC (1)
4	NG_ADC(2)	9	NG_ADC(0) (Also on PIN9 J6)
5	GND		

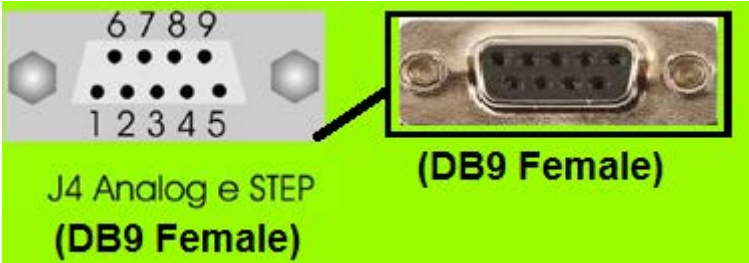
For Example:



WARNING : DONOT CONNECT THE SENSOR DIRECT TO THE ANALOG INPUT , YOU MUST HAVE ISOLATOR CIRCUIT TO ISOLATE CIRCUIT (VOLTAGE / CURRENT).

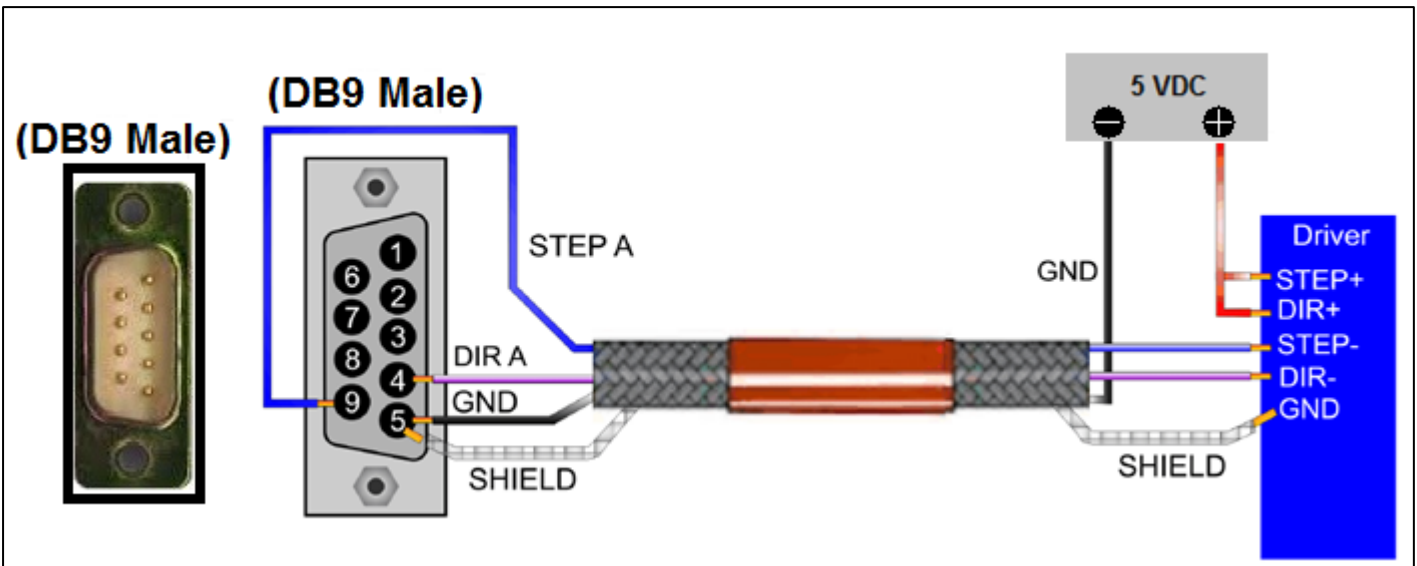


J4 - AS STEP/DIR OPEN COLLECTOR



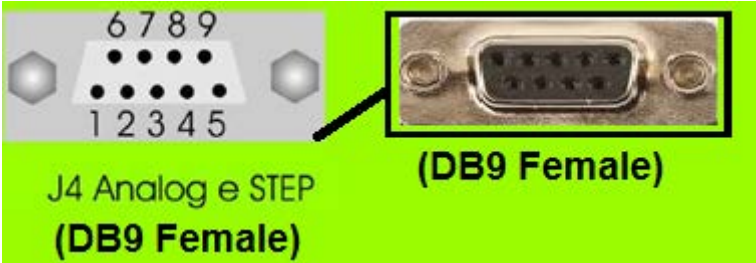
Controller Type Code: **NGQ/P-#-#**

PIN Number	Description	PIN Number	Description
1	DIR D	6	STEP D
2	DIR C	7	STEP C
3	DIR B	8	STEP B
4	DIR A	9	STEP A
5	GND		

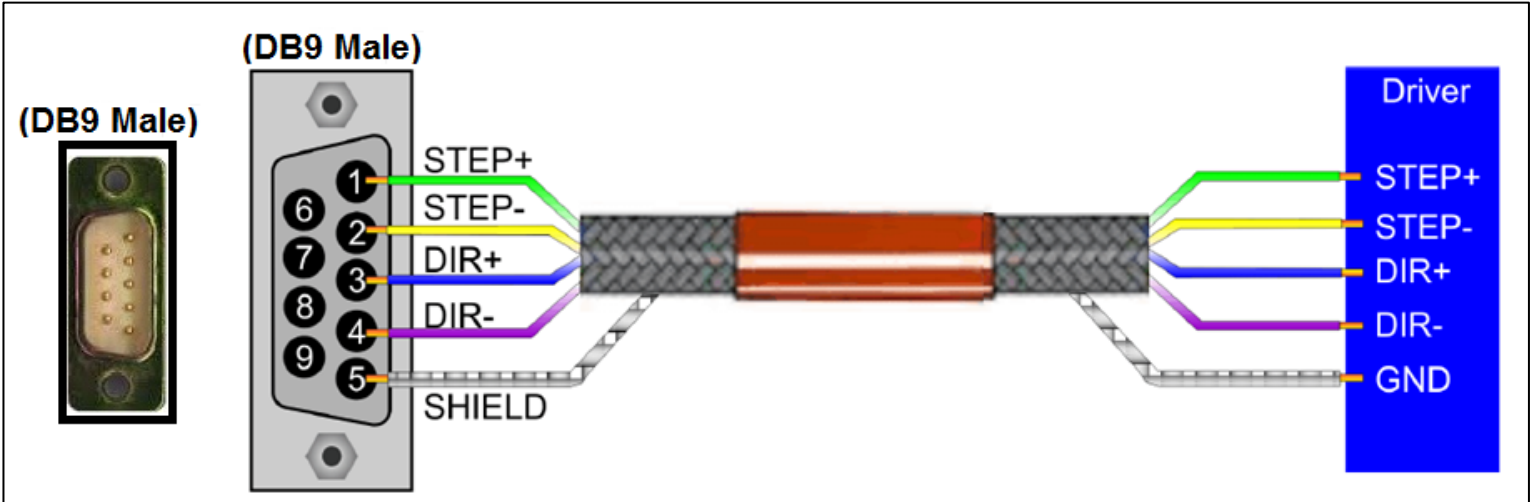


J4 - AS STEP/DIR LINE DRIVE

Controller Type Code: NGQ/L2-##
 NGQ/L4-##



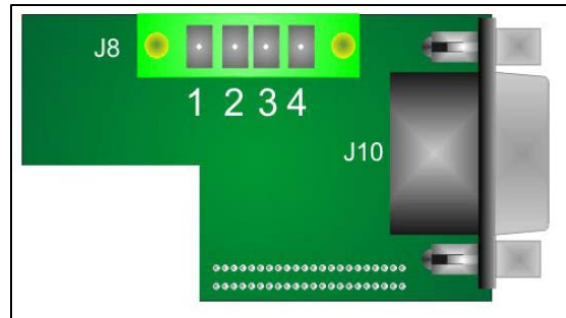
PIN Number	Description	PIN Number	Description
1	STEP + A	6	STEP + B
2	STEP – A	7	STEP – B
3	DIR + A	8	DIR + B
4	DIR – A	9	DIR – B
5	GND		



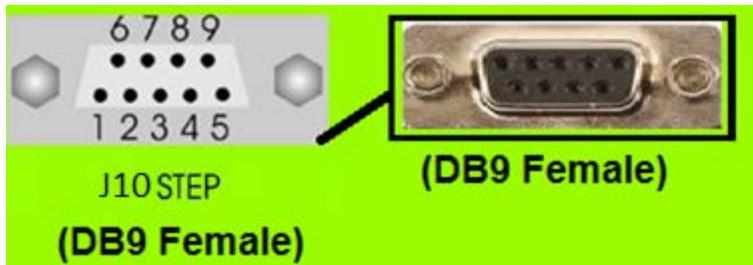
EXPANSION BOARD

The NGQ Expansion Board contains the following features:

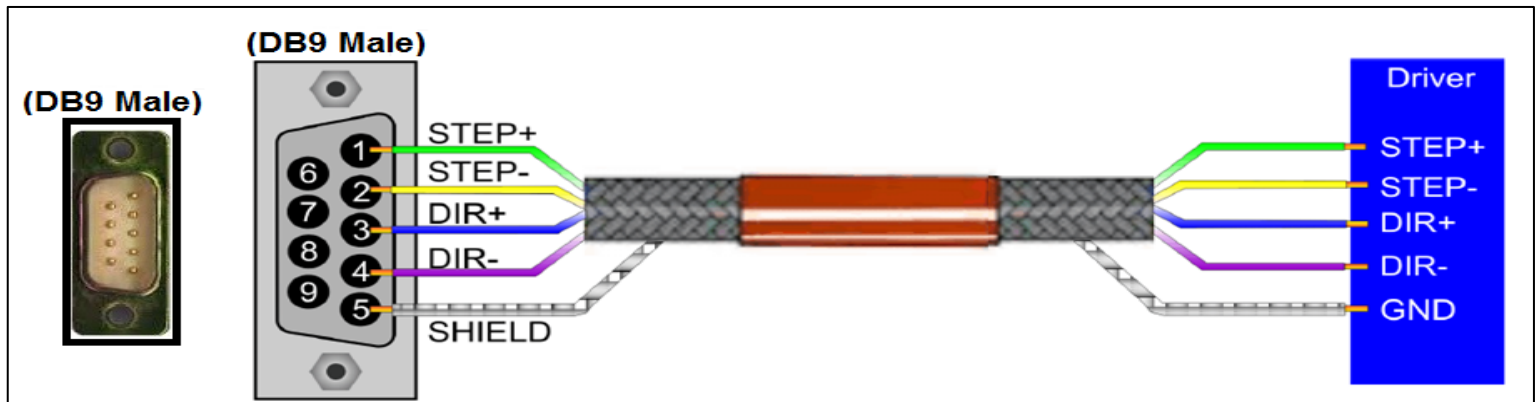
- 2 Channels STEP/DIR Line Drive J10
- 2 Analog Outputs +/- 10 V J8
- Permanent memory expansion FRAM 16 Kb



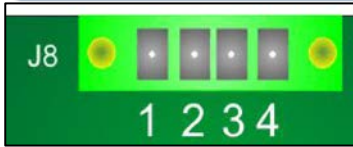
J10- STEP / DIR LINE DRIVE (On Expansion)



PIN Number	Description	PIN Number	Description
1	STEP + A	6	STEP + B
2	STEP – A	7	STEP – B
3	DIR + A	8	DIR + B
4	DIR – A	9	DIR – B
5	GND		



J8 AS ANALOG OUTPUT (ON EXPANSION)

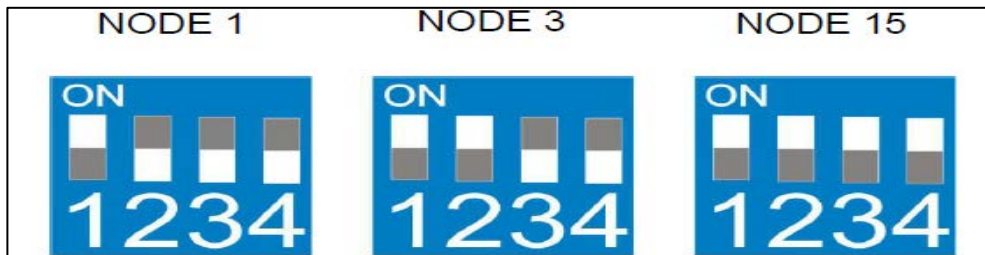


PIN Number	Description	Syntax
1	+10 V	NG_DAC(0)
2	-10 V	
3	+10 V	NG_DAC(1)
4	-10 V	

DIP1 - AS NODE NUMBER

When the NGQUARK is in SLAVE MODE, you must select the CanOpen Node number by DIP 1.

This is codified in binary mode (node 1 to 15)



DIMENSIONS

