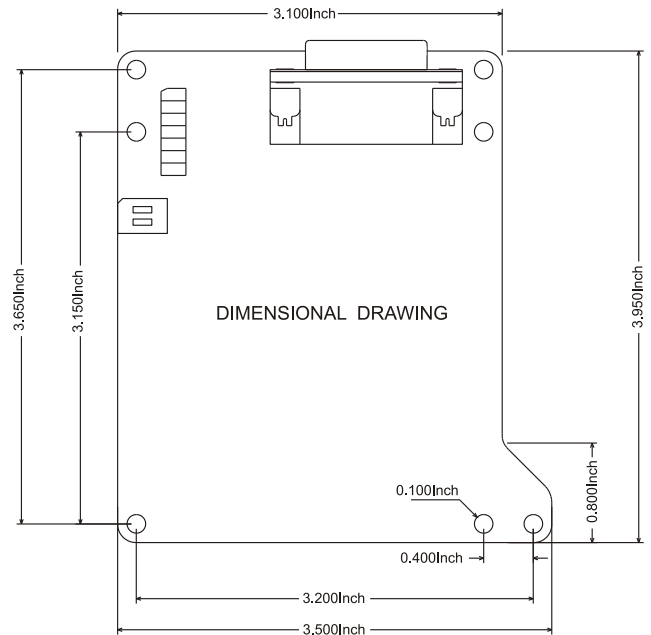
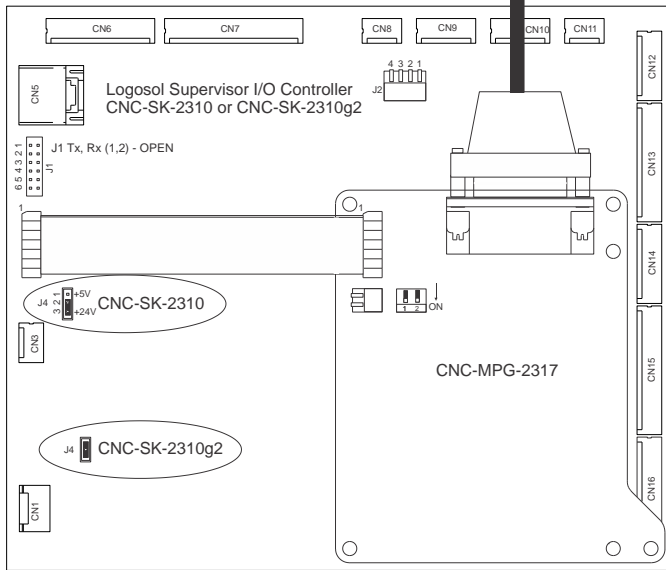


Logosol Manual Pulse Generator Controller CNC-MPG-2317

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Features

- ❑ Seven axis selection control inputs
- ❑ Three scaling factor selection inputs
- ❑ Three optional inputs
- ❑ MPG enable input
- ❑ MPG encoder presence control
- ❑ Dual Line Emergency Stop
- ❑ Piggy-back board for Logosol Supervisor controller CNC-SK-2310



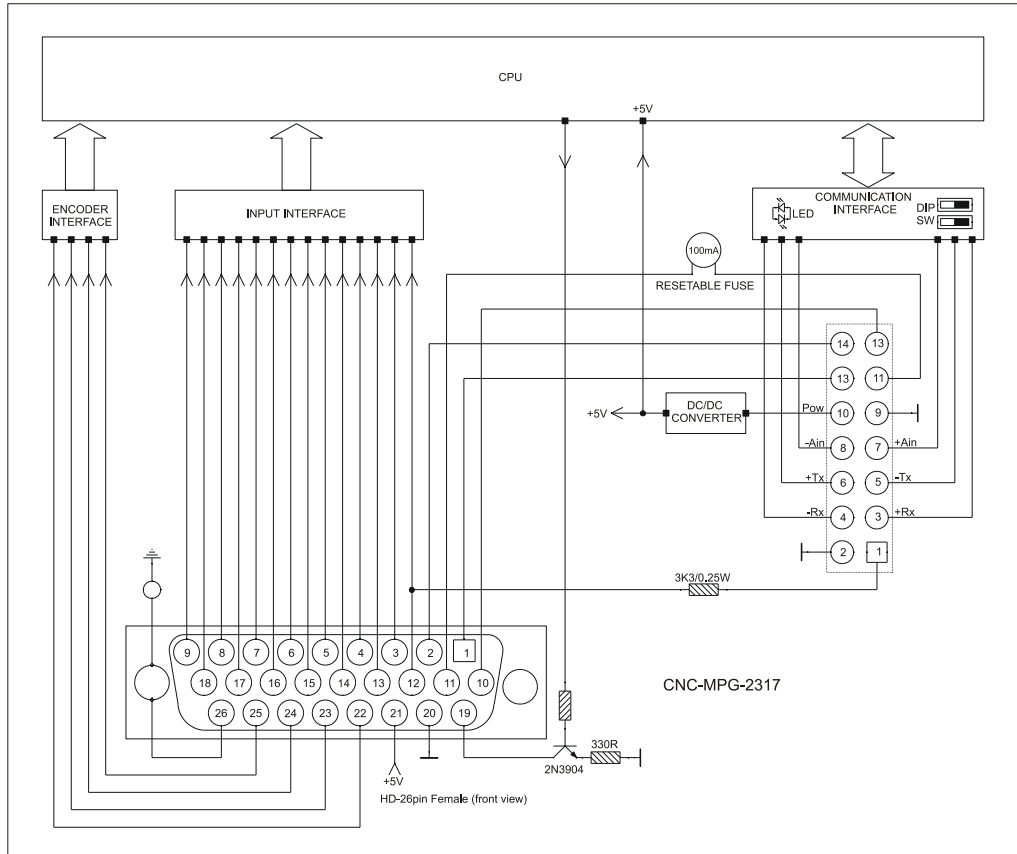
ORDERING GUIDE

PART NUMBER	MODEL	DESCRIPTION
920231701	CNC-MPG-2317	MPG Controller
621730012	ER230-MK5	Manual Pulse Generator 5 Axis with Stop and Enable Button NO CONNECTOR INSTALLED (loose wires)
621730011	ER230-5	Manual Pulse Generator 5 Axis with Stop and Enable Button (with connector to be used with Logosol CNC-MPG-2317 Logosol Manual Pulse Generator Controller)

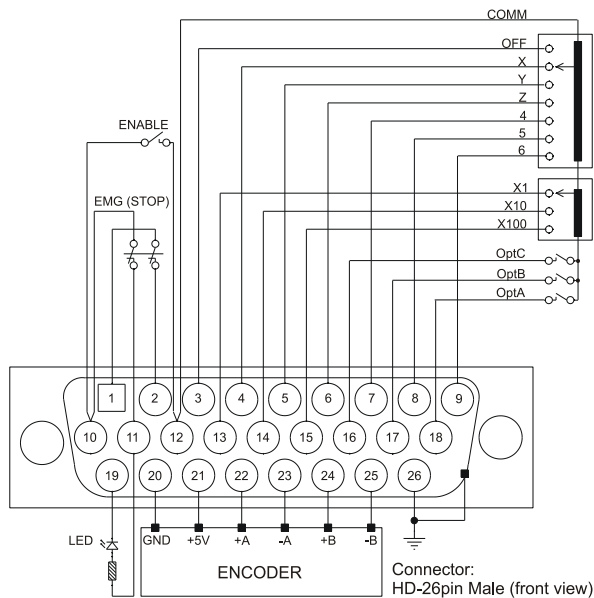
Logosol Manual Pulse Generator Controller CNC-MPG-2317

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BLOCK DIAGRAM



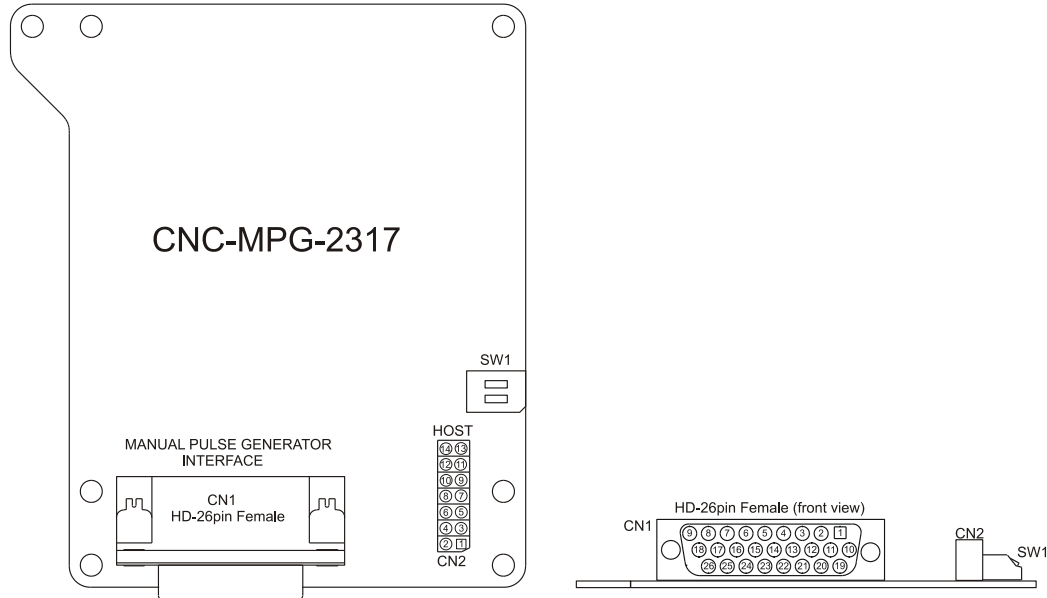
TYPICAL MPG WIRING



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CONNECTORS AND PINOUT



DIP SWITCHES

SW	NAME	DESCRIPTION
1	Terminator Tx	Transmit line terminator
2	Terminator Rx	Receive line terminator

CN1 – MANUAL PULSE GENERATOR INTERFACE

PIN	APPLICATION	DESCRIPTION	Data location
1	EMG B1	Emergency Stop line B contact pin1, wired to CN2 pin12	N.A.
2	EMG B2	Emergency Stop line B contact pin2, wired to CN2 pin14	N.A.
3	OFF	Axis OFF input	Input / byte0 / bit1
4	X	Axis X input	Input / byte0 / bit2
5	Y	Axis Y input	Input / byte0 / bit3
6	Z	Axis Z input	Input / byte0 / bit4
7	4	Axis 4 input	Input / byte0 / bit5
8	5	Axis 5 input	Input / byte0 / bit6
9	6	Axis 6 input	Input / byte0 / bit7
10	EMG A2 <i>and</i> Enable1	Emergency Stop line A contact pin2, wired to CN2 pin13	N.A.
11	EMG A1 <i>and</i> LED anode	Emergency Stop line A contact pin1, wired to CN2 pin11	N.A.
12	Enable2 <i>and</i> MPG COM	MPG Enable input, connected to CN2 pin1 through 3K3 resistor	Input / byte0 / bit0
13	X1	Scaling factor X1 input	Input / byte1 / bit5
14	X10	Scaling factor X10 input	Input / byte1 / bit4
15	X100	Scaling factor X100 input	Input / byte1 / bit3
16	OptC	Non-dedicated input.	Input / byte1 / bit2
17	OptB	Non-dedicated input.	Input / byte1 / bit1
18	OptA	Non-dedicated input.	Input / byte1 / bit0
19	LED control	Open collector output. ON - MPG is enabled; Blink - Handshake error; OFF - MPG Disabled.	N.A.
20	GND	Encoder Ground	N.A.
21	+5V	Encoder +5V	N.A.
22	A+	Encoder phase A+	Encoder counter
23	A-	Encoder phase A-	
24	B+	Encoder phase B+	
25	B-	Encoder phase B-	
26	Shield	Encoder Shield	N.A.

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CN2 – HOST

PIN	SIGNAL	DESCRIPTION
1	Enable Request B	Connected to CN1 pin12 with 3K3 resistor in series
2	GND	Ground
3	+RX	(+) Receive data
4	-RX	(-) Receive data
5	-TX	(-) Transmit data
6	+TX	(+) Transmit data
7	-A in	(-) Address input
8	+A in	(+) Address input
9	GND	Ground
10	Power	+24V power supply (CNC-SK-2310 J4 2-3 shorted)
11	EMG A1	Emergency Stop line A contact pin1
12	EMG B1	Emergency Stop line B contact pin1
13	EMG A2	Emergency Stop line A contact pin2
14	EMG B2	Emergency Stop line B contact pin2

COMMANDS and DATA MAP

CNC-MPG-2317 is a member of Logosol I/O LDCN devices family (See LS-773 / LS-784 *Command Description*).

Define Status

Command value: 0x2

Number of data bytes: 1

Command byte: 0x12

Data bytes:

1. Status items: (default: 0x00)

Bit 0: send Input Byte 0 and Byte 1 (2 bytes)

1, 2, 3: Reserved set to 0

4: send Encoder value (4 bytes, least significant first)

5: send device ID, version number (2 bytes)
(CNC-MPG-2317 device ID = 2, version number = 40)

6, 7: Reserved set to 0

Read Status

Command value: 0x3

Number of data bytes: 1

Command byte: 0x13

Data bytes:

1. Status items: (default: 0x00)

Bit 0: send Input Byte 0 and Byte 1 (2 bytes)

1, 2, 3: Reserved set to 0

4: send Encoder value (4 bytes, least significant first)

5: send device ID, version number (2 bytes)
(CNC-MPG-2317 device ID = 2, version number = 40)

6, 7: Reserved set to 0

Status Byte

Bit0 – 0=MPG is disabled, 1=MPG is enabled;

Bit1 – 1=Checksum error;

Bit2 – Output Byte0 / Bit0 (HOST Acknowledge);

Bit3 – Encoder position wrap.

Bits 4, 5, 6 and 7 are not applicable and can be ignored.

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INPUT DATA MAP

Input Byte 0	Name	Location / Description
Bit 0	Enable Request	CN1 pin12 (MPG Enable input)
Bit 1	OFF	CN1 pin3
Bit 2	X	CN1 pin4
Bit 3	Y	CN1 pin5
Bit 4	Z	CN1 pin6
Bit 5	4	CN1 pin7
Bit 6	5	CN1 pin8
Bit 7	6	CN1 pin9

Input Byte 1	Name	Location / Description
Bit 0	OptA	CN1 pin18
Bit 1	OptB	CN1 pin17
Bit 2	OptC	CN1 pin16
Bit 3	X100	CN1 pin15
Bit 4	X10	CN1 pin14
Bit 5	X1	CN1 pin13
Bit 6	Reserved (LOW)	N.A.
Bit 7	Encoder Error	HIGH when any encoder wire is disconnected or shorted

OUTPUT DATA MAP

Byte 0	Name	Description
Bit 0	Host Acknowledge	Host Handshake confirmation
Bit 1	Reserved	Reserved. Must be set to 0
Bit 2	Reserved	Reserved. Must be set to 0
Bit 3	Reserved	Reserved. Must be set to 0
Bit 4	Reserved	Reserved. Must be set to 0
Bit 5	Reserved	Reserved. Must be set to 0
Bit 6	Reserved	Reserved. Must be set to 0
Bit 7	Reserved	Reserved. Must be set to 0

Byte 1	Name	Description
Bit 0 to Bit 7	Reserved	Reserved. Must be set to 0

HOST HANDSHAKE

Manual Pulse Generator will be **enabled**:

- at 0 to 1 transition of Output-Byte0 / Bit0, when Input-Byte0 / Bit0 (Enable Request) = 1
- MPG Encoder Counter will start from 0.

Manual Pulse Generator will be **disabled**:

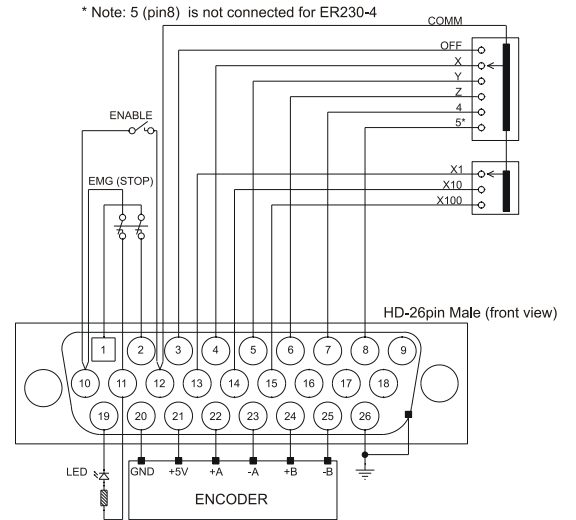
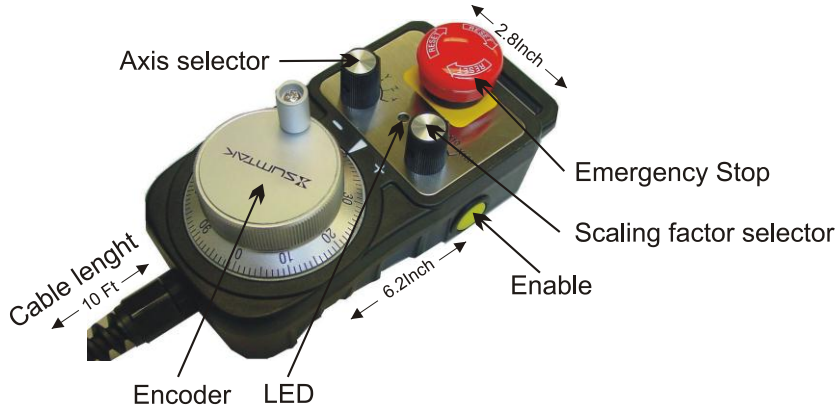
- at any MPG data input change;
- if Encoder error is detected (Input Byte1 / Bit7 = 1);
- MPG is disabled (Output Byte0 / bit0 = 0).

The encoder counter value will remain unchanged until the next 0 to 1 transition of Output Byte0 / Bit0.

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ER230-4 (5) MANUAL PULSE GENERATOR WIRING



MANUAL PULSE GENERATOR INTERFACE

PIN	SIGNAL	COLOR	DESCRIPTION
1	EMG B1	L. Blue / Black	Emergency Stop line B contact pin1
2	EMG B2	Pink/Black	Emergency Stop line B contact pin2
3	OFF	Gray	Axis selector switch - OFF position
4	X	Brown	Axis selector
5	Y	Orange	
6	Z	L. Blue	
7	4	Blue	
8	5	Green	Axis selector switch - Fifth Axis select (ER230-5 only)
9	N.C.	-	-
10	EMG A2 & Enable1	L. Green / Black & Yellow / Black	Emergency Stop line A contact pin2 & MPG Enable contact pin1
11	EMG A1 & LED anode	White / Black & Red / Black	Emergency Stop line A contact pin1 & Led power supply
12	Enable2 & MPG COM	Purple / Black & Purple	MPG Enable contact pin2 & Selector's power source
13	X1	Green / Black	Scaling factor selector
14	X10	Blue / Black	
15	X100	Orange / Black	
16	No function	Gray / Black	No function – hanging wire
17	N.C.	-	-
18	N.C.	-	-
19	LED cathode	Pink	LED cathode
20	GND	Black	Encoder Ground
21	+5V	Red	Encoder +5V
22	A+	Yellow	Encoder phase A+
23	A-	L. Green	Encoder phase A-
24	B+	White	Encoder phase B+
25	B-	Brown / Black	Encoder phase B-
26	Shield	-	Shield