



DIGITEC CUTTING SYSTEM

056.0

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This document is written by: **Massimo Nardi**
approved by: **Massimo Nardi**

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SUMMARY

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1. Rack description

The DIGITEC cards are housed in an aluminum housing for mounting on DIN rail .
Inside the system it consists of four tabs :

supply card PC104 e fieldbus

fieldbus card anybus cc m40

PC104 card

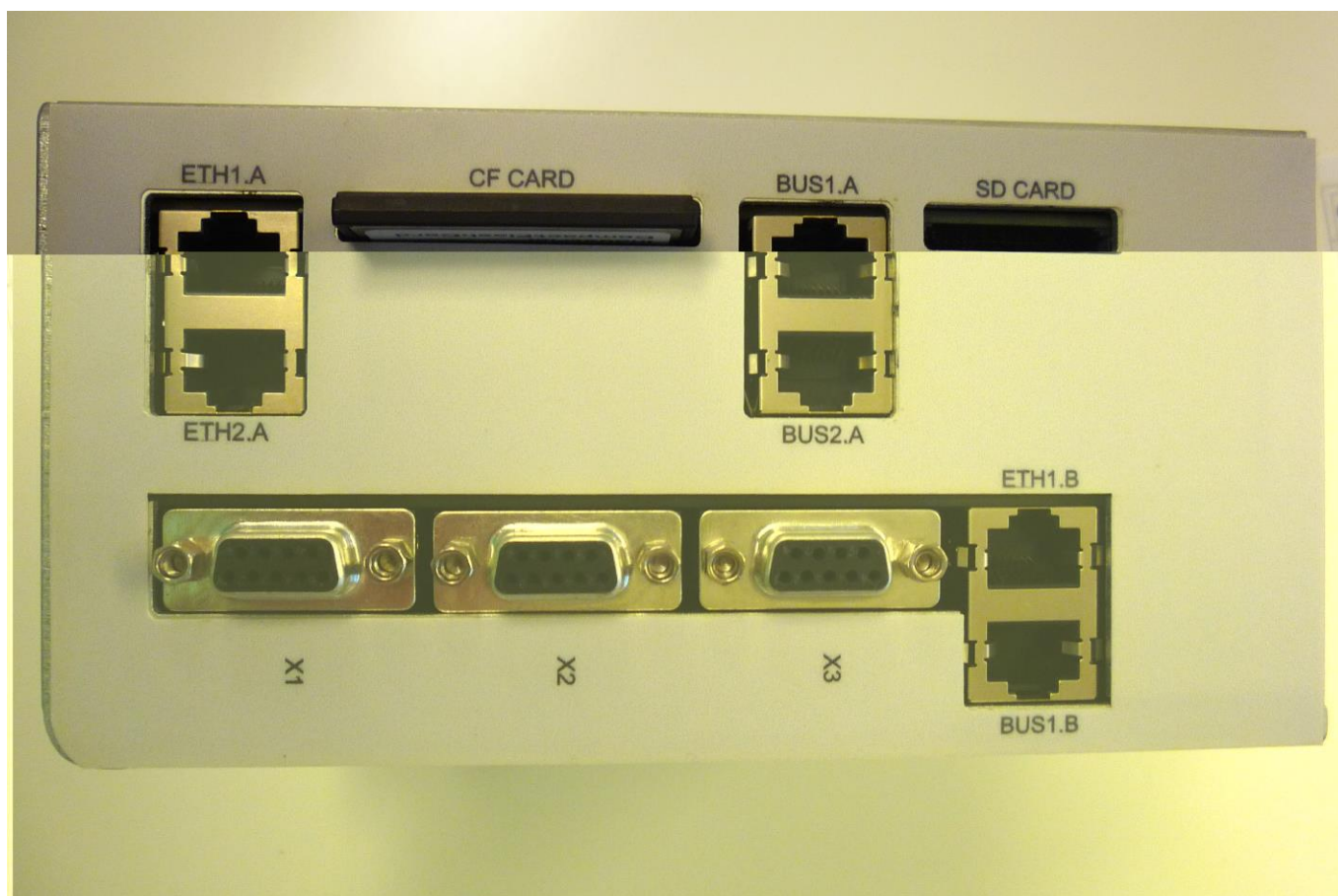
Input output card

The system has a input voltage ranging from 18V to 36V DC automatically selected and has a consumption of about 20-24W .

Work range temperature from 0 ° C to 60 ° C.

2. Hardware connection

Top side

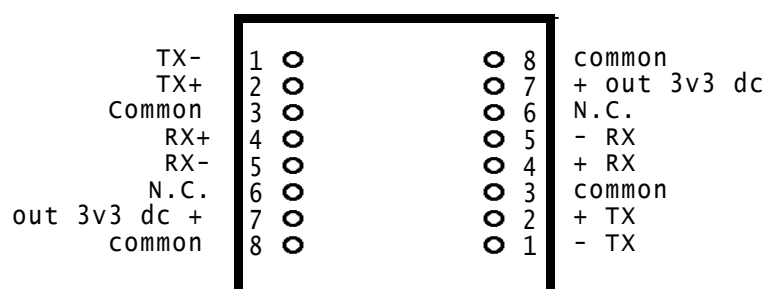


PIC CONNECTION



BUS1.A RJ45 SX 1° RS422

BUS2.A RJ45 DX 2° RS422

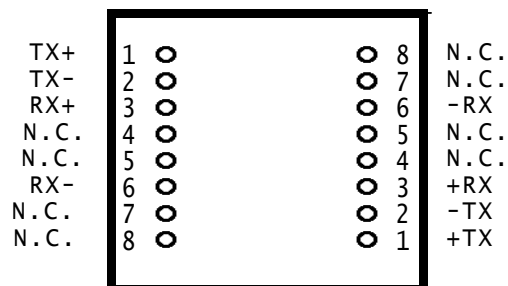


CF CARD CONNECTION



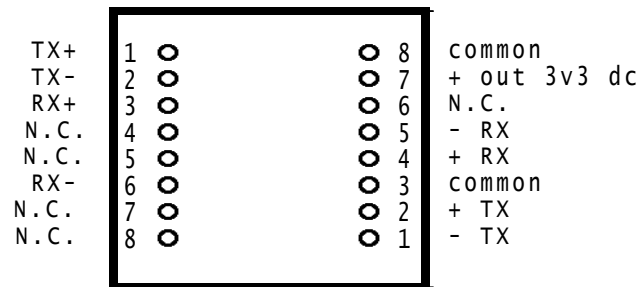
ETH1.A RJ45 SX 1° ETHERNET PC

ETH1.B RJ45 DX 2° ETHERNET PC

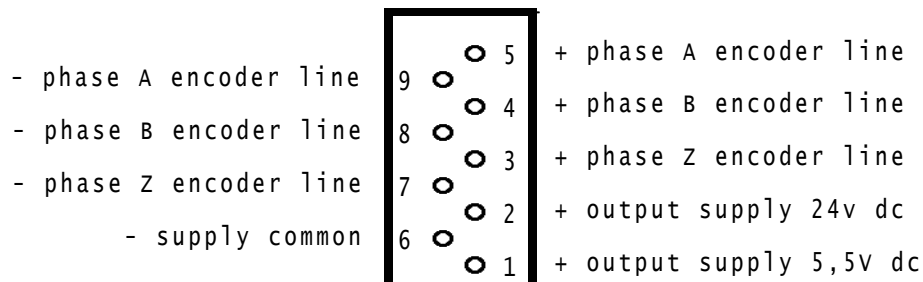


ETH.1B RJ45 SX ETHERNET

BUS1.B RJ45 DX RS422

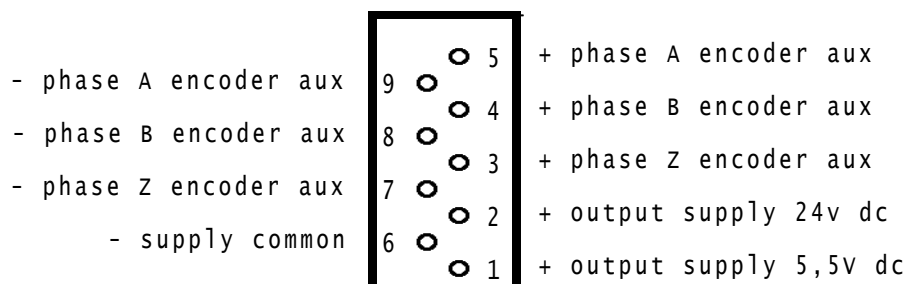


X1 ENCODER LINE



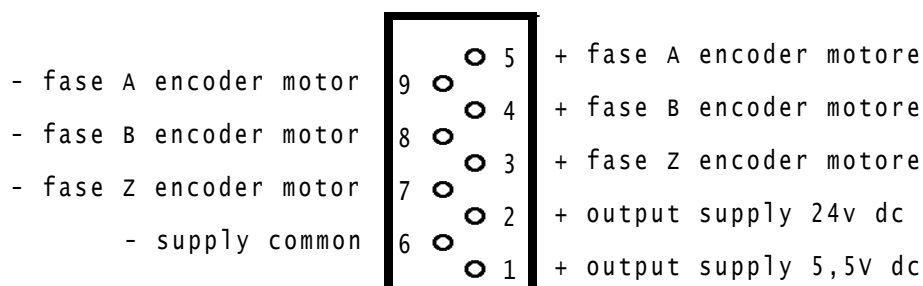
shield connection of the connector case

X2 ENCODER AUX



shield connection of the connector case

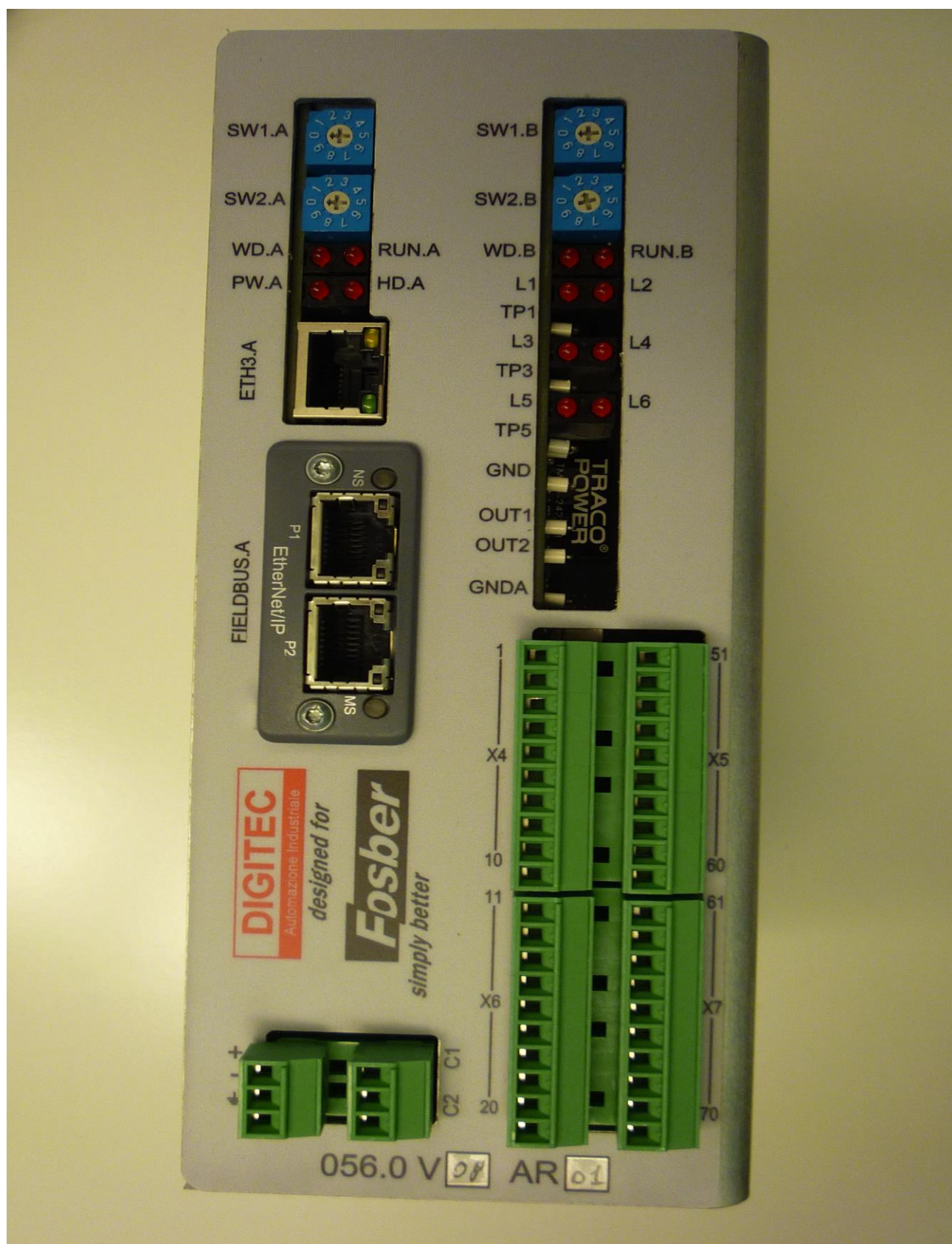
X3 ENCODER MOTOR



shield connection of the connector case

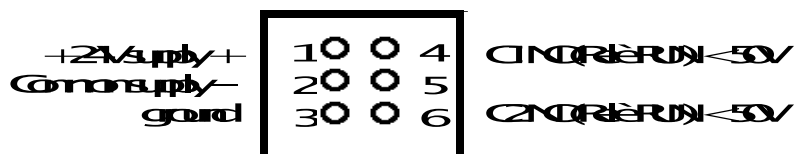
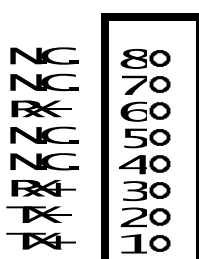
Pin 1-6 (5Vdc supply), Pin 2-6 (24Vdc supply) 100mA max ,
 N.B .: if externally powered, connect pin 6 with the external zero.

Front side



- **SW1.A :** Switch rotary decimal
- **SW2.A :** Switch rotary decimal
- **WD.A :** Card A watchdog (clock 0,5 Hz)
- **RUN.A :** System run (contact C1-C2 close)
- **PW.A :** 5v power supply indicator
- **HD.A :** PC access on CF CARD
- **FIELDBUS.A:** Slot for ANYBUS CC M40

ETHERNET



- **SW1.B :** Switch rotary decimal
- **SW2.B :** Switch rotary decimal
- **WD.B :** Card B watchdog (clock 0,5 Hz)
- **RUN.B :** System run (contact X6 66-67 close)
- **L1 TP1 :** Red led (for internal use)
- **L2 :** Red led (for internal use)
- **L3 TP3 :** Red led (for internal use)
- **L4 :** Red led (for internal use)
- **L5 TP5 :** Red led (for internal use)
- **L6 :** Red led (for internal use)
- **GND :** Common TP
- **OUT1 :** Programmable analog output +/-10V
- **OUT2 :** Programmable analog output +/-10V
- **GNDA :** Common analogic output

	X4	X5	
+ material photocell	1 00	51	+ outputs supply 8-24V dc
- material photocell	2 00	52	output PLC0
+cut position(zero point)	3 00	53	output PLC1
-cut position(zero position)	4 00	54	output PLC2
+ mark photocell	5 00	55	output PLC3
- mark photocell	6 00	56	output PLC4
+ input 3	7 00	57	output PLC5
- input 3	8 00	58	output PLC6
+ input 4	9 00	59	output PLC7
- input 4	10 00	60	- outputs supply

	X6	X7	
+ output supply 24v dc	11 00	61	+ analogic output 0
IN/OUT_0	12 00	62	- analogic output 0
IN/OUT_1	13 00	63	+ analogic output 1
IN/OUT_2	14 00	64	- analogic output 1
IN/OUT_3	15 00	65	+ output supply 5,3v dc
IN/OUT_4	16 00	66	N.O. Relè RUN < 50V
IN/OUT_5	17 00	67	N.O. Relè RUN < 50V
IN/OUT_6	18 00	68	input 24V dc power board
IN/OUT_7	19 00	69	input 0v power board
- common IN/OUT	20 00	70	input ground

Terminal X4: Digital inputs.
Inputs: 24Vdc $\pm 10\%$ I_{max}=10mA

Terminal X5: Output Push-Pull.
Output: I_{max}=100mA

Terminal X6: Inputs or outputs configurable; Output driver transistor.
I_{max}=100mA

Terminal X7: Analogic outputs configurable.
Output: $\pm 10V/2mA$.

Lower side



- **PROG :** Programming micro (reserved for DIGITEC use)
- **VGA :** Video PC104 (reserved for DIGITEC use)
- **KBD :** Keyboard PC104 (reserved for DIGITEC use)
- **USB :** Usb PC104 (reserved for DIGITEC use)
- **PROG :** Programming micro (reserved for DIGITEC use)
- **FIELD BUS.B:** Slot for ANYBUS CC M40

3. Fielbus ANYBUS CC M40

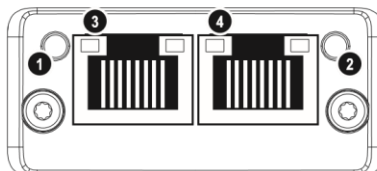
The cutting system provides the possibility to mount a field bus to interface to the various market PLC type

SIEMENS – ALLEN BRADLEY ...

The Fieldbus used in addition to being marked in ANYBUS module is coded with VXX code. To check module diagnostics , refer to the module version :

- **V01** : **Scheda senza bus di campo.**
- **V08** : **ETHERNET IP**

#	Item	Connector
1	Network Status LED ^a	Ethernet, RJ45
2	Module Status LED ^a	
3	Link/Activity LED (port 1)	
4	Link/Activity LED (port 2)	



a. Test sequences are performed on the Network and Module Status LEDs during startup.

Network Status LED

Note: A test sequence is performed on this LED during startup.

LED State	Description
Off	No power or no IP address
Green	Online, one or more connections established (CIP Class 1 or 3)
Green, flashing	Online, no connections established
Red	Duplicate IP address, FATAL error
Red, flashing	One or more connections timed out (CIP Class 1 or 3)

Module Status LED

Note: A test sequence is performed on this LED during startup.

LED State	Description
Off	No power
Green	Controlled by a Scanner in Run state
Green, flashing	Not configured, or Scanner in Idle state
Red	Major fault (EXCEPTION-state, FATAL error etc.)
Red, flashing	Recoverable fault(s). Module is configured, but stored parameters differ from currently used parameters.

LINK/Activity LED 3/4

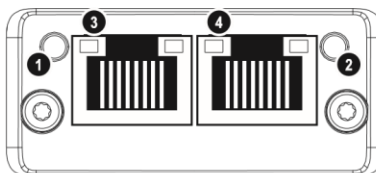
LED State	Description
Off	No link, no activity
Green	Link (100 Mbit/s) established
Green, flickering	Activity (100 Mbit/s)
Yellow	Link (10 Mbit/s) established
Yellow, flickering	Activity (10 Mbit/s)

Ethernet Interface

The Ethernet interface supports 10/100Mbit, full or half duplex operation.

➤ V09 : PROFINET

#	Item	Connector
1	Network Status LED ^a	Ethernet, RJ45
2	Module Status LED ^a	
3	Link/Activity LED (port 1)	
4	Link/Activity LED (port 2)	



a. Test sequences are performed on the Network and Module Status LEDs during startup.

Network Status LED

LED State	Description	Comments
Off	Offline	- No power - No connection with IO Controller
Green	Online (RUN)	- Connection with IO Controller established - IO Controller in RUN state
Green, 1 flash	Online (STOP)	- Connection with IO Controller established - IO Controller in STOP state or - IO data bad - IRT synchronization not finished
Green, blinking	Blink	Used by engineering tools to identify the node on the network
Red	Fatal event	Major internal error (this indication is combined with a red module status LED)
Red, 1 flash	Station Name error	Station Name not set
Red, 2 flashes	IP address error	IP address not set
Red, 3 flashes	Configuration error	Expected Identification differs from Real Identification

Module Status LED

LED State	Description	Comments
Off	Not Initialized	No power - or - Module in 'SETUP' or 'NW_INIT' state
Green	Normal Operation	Module has shifted from the 'NW_INIT' state

Green, 1 flash	Diagnostic Event(s)	Diagnostic event(s) present
Red	Exception error Fatal event	Device in state EXCEPTION Major internal error (this indication is combined with a red network status LED)
Alternating Red/Green	Firmware update	Do NOT power off the module. Turning the module off during this phase could cause permanent damage.

LINK/Activity LED

LED State	Description	Comments
Off	No Link	No link, no communication present
Green	Link	Ethernet link established, no communication present
Green, flickering	Activity	Ethernet link established, communication present

4. Fosber Master 400 Configuration (software version 100)

- **SW2.B:** Line in run configuration level
 - -switch 1: -ETHERNET/IP 192.168.1.16
(level 1) -PLC 056.0 192.168.1.15
 - -switch 2: -ETHERNET/IP 192.168.1.26
(level 2) -PLC 056.0 192.168.1.25
 - -switch 3: -ETHERNET/IP 192.168.1.36
(level 3) -PLC 056.0 192.168.1.35
 - -switch 4: -ETHERNET/IP 192.168.1.82
(L1 Cina) -PLC 056.0 192.168.1.102
 - -switch 5: -ETHERNET/IP 192.168.1.83
(L2 Cina) -PLC 056.0 192.168.1.104
- **L1 TP1:** Material presence photocell (X4.1/2)
 - Photocell ON (TP1 ON) = Led off
 - Photocell OFF (TP1 OFF)= Led off
- **L2:** Not used
- **L3 TP3:** Loading sensor on syncro zone zero position
- **L4:** Syncro Zone
 - Syncro Zone on = Led off
- **L5 TP5:** Cut to mark photocell filtered input (X4.5/6)
 - Photocell ON (TP5 ON) = Led off
 - Photocell OFF (TP5 OFF)= Led off
- **L6:** OK Pattern recognized = Led off
- **OUT 1:** Speed reference
- **OUT 2:** Speed rotation (ENCODER X3)
- **ETH1.A:** Network ETHERCAT for drive
- **FIELBUS.A:** Network ETHERNET/IP for PLC connection
- **X1:** Measuring wheel encoder input
- **X2:** Pull-Roll encoder input
- **X3:** Motor rotation input
- **X4.1/2:** Presence material photocell
- **X4.2/3:** Loading sensor input
- **X4.5/6:** Cut to mark photocell input
- **X4.7/8:** Tracking scrap splice input
- **X5.52:** Cut error signal (out of range)
- **X5.53:** Waste flat opening and closing
- **X5.55:** Cut signal
- **X5.56:** Up/down no crash roll
- **X5.57:** Pressure exchange no crash roll
- **X7.61/62:** Drive torque reference output
- **X7.63/64:** Drive torque reference output

- **X7.68/69/70: Cut rack supply**