

How to make a Diagnostic and Start on LULC08 ?

I- Type of publication

☐ Typical application	☐ Level 2 use
☐ Best know Method (BKM)	☐ Internal use
☒ Troubleshooting guide	☒ Customer

II- Product

- Product range :

TesysU ▼

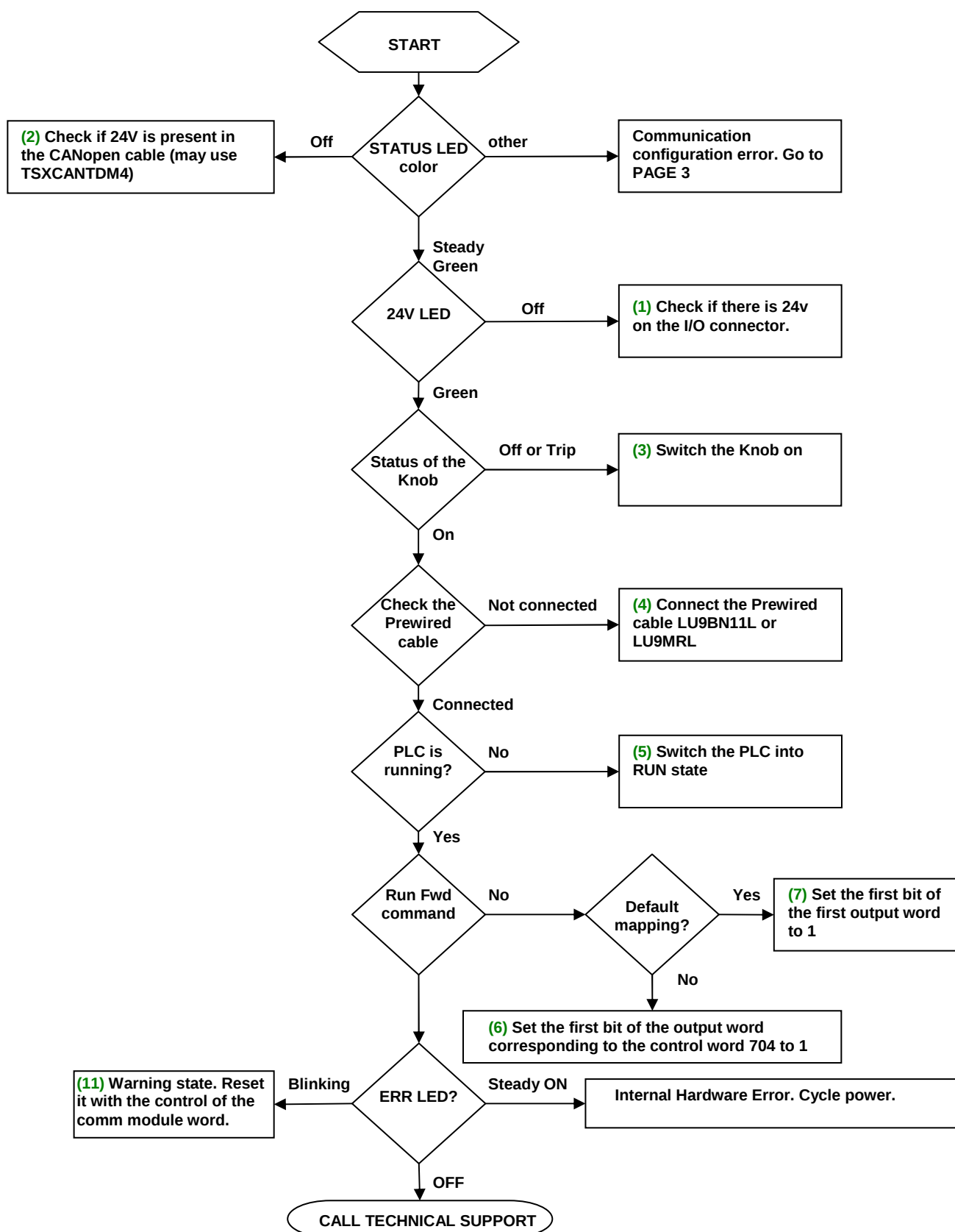
- Product family :

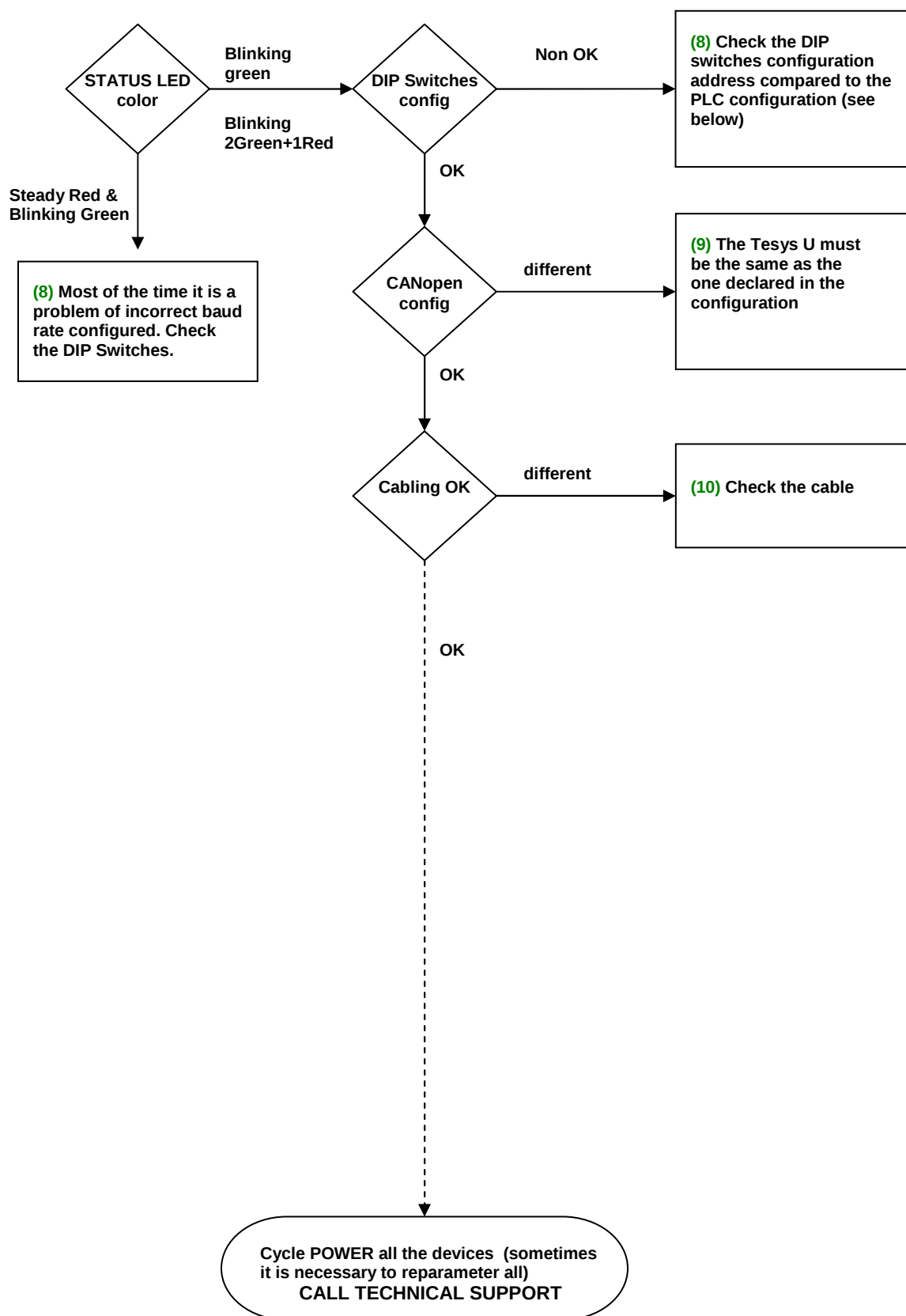
LULC08 ▼

III- Introduction

This document describes how to make a diagnostic on LULC08 for a communication loss or if you cannot establish the communication between PLC and LULC08. This is a step by step procedure to start your network module. The two first pages show a block diagram and each box of this block diagram refers to detailed information.

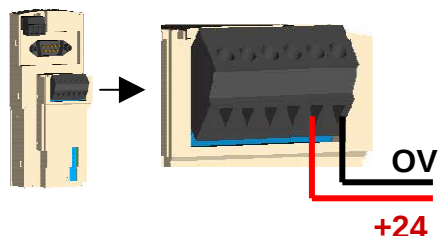
IV- Description





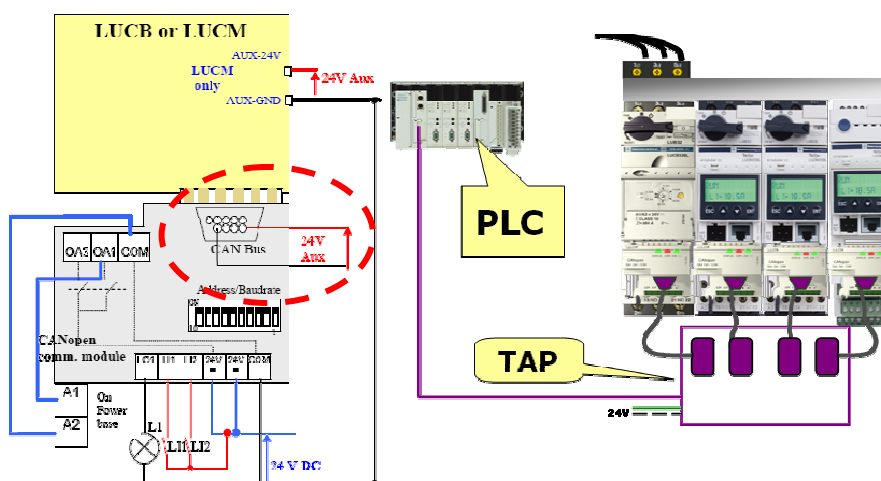
(1) Check the 24Vdc on IO connector

24V must be provided to the logic **IO connector** for the COIL.



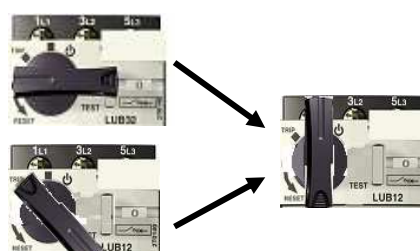
(2) Check the 24Vdc on Network cable

24V must be provided into the **CANopen cable** (so you must use 4wire cable, and you may need the CANopen TAP TSXCANTDM4)



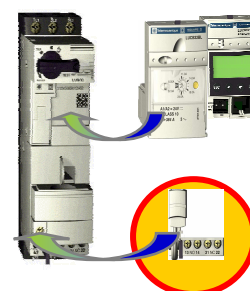
(3) Switch the knob on

If the **KNOB** is OFF or Trip, switch it



(4) Connect the prewired cable

Check if **the prewired** connection cable LU9BN11L is connected



(5) Set the PLC to RUN



(6) Set the first bit of the output word corresponding to the control word 704 to 1

Search in which PDO you have mapped the word “704 Control of the system” Object Index 2008, Sub index 5, then set the bit 0 to 1 to Run.

Obj.Idx.	Sub.Idx.	Parameter
2008	5	Control of the system

(7) Set the first bit of the first output word to 1

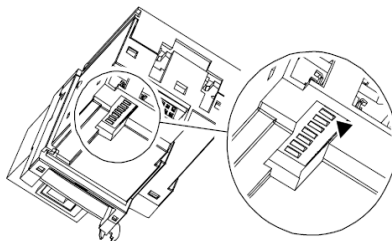
By default, the first Received PDO is the control of the system command. So by default, set the bit 0 to 1 of your first output word in the PLC.

Parameter	Value
%Qw/3.N0.0.0	2#0000_0000_0000_0001
%Qw/3.N0.0.1	2#0000_0000_0000_0000
%Qw/3.N0.0.2	2#0000_0000_0000_0000
%Qw/3.N0.0.3	2#0000_0000_0000_0000
%Qw/3.N0.0.4	2#0000_0000_0000_0000

This screenshot is taken from UnityPro software

(8) DIP switch

Check the address and the Baud Rate: the address and the baud rate are coded by the DIP switches.

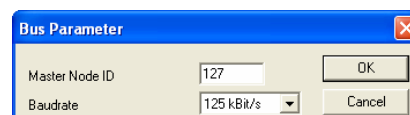
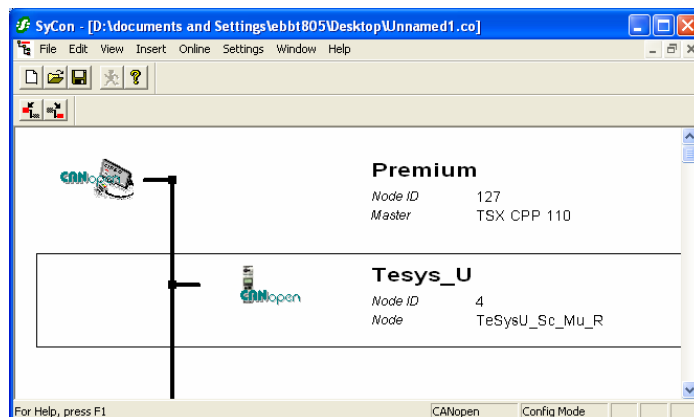


The first 3 switches are dedicated for the baud rate (see the table in the documentation), the others are dedicated for the address code, in binary, the least significant bit is on the right.

Example: **Tesys U** address 4 and speed 125kbit/s:



SW10	SW9	SW8	Baud Rate
0	0	0	10 kbps
0	0	1	20 kbps
0	1	0	50 kbps
0	1	1	125 kbps
1	0	0	250 kbps (default value)
1	0	1	500 kbps
1	1	0	800 kbps
1	1	1	1,000 kbps



Those screenshots are taken from Sycon software

Very important point: the baud rate must be the same as the one configured in the PLC, otherwise *all the bus will collapse* and the other devices will stop. Check also that there are not 2 devices with the same address.

(9) The TeSysU must be the same as one declared in the configuration

Check the CANopen configuration. The Control Unit plugged into the Tesys U must be the same as the one declared in the configuration.

Example: Sycon configuration is TeSysU_Sc_Mu_R match with a Tesys U with Multifunction Control Unit.

Node Configuration

Node: TeSysU_Sc_Mu_R
Description: Tesys_U
File name: TE_TESYSU_SC_MU_R_0102E.EDS
☒ Activate node in actual configuration
☒ Automatic COB-ID allocation in accordance with Profile 301
Device Profile: 0 Device type: 0
Node ID (address): 4
Configuration Error Control Protocol
Emergency COB-ID: 132
Nodeguard COB-ID: 1796
OK Cancel Node BootUp OPC Objects Object Configuration

PDO Contents Mapping Object Index 1600

Mapable Objects from EDS file

Obj.Idx.	Sub.Idx.	Parameter	Access
2004	1	Time auto reset therm. flt	Read
2004	2	Fault code	Read
2004	3	Fault register	Read
2004	6	Status register	Read
2004	7	Complementary status reg.	Read
2004	8	Mechanic & power status reg.	Read
2004	9	I/O module status register	Read

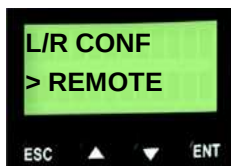
Mapped Object dictionary

Obj.Idx.	Sub.Idx.	Parameter	Symbolic name
2008	5	Control of the system	Object2008dx5
2008	4	Control of comm module	Object2008dx4
2008	1	Control of outputs	Object2008dx1

OK Cancel Append Object Delete mapped Object

PDOs	Description
Transmit PDO1	To monitor (data transmitted by the slave)
receive PDO1	To control (data transmitted by the master)
Transmit PDO2	To be used to exchange data (defined at configuration)
receive PDO2	
Transmit PDO3	To access (read or write) to any register by programming
receive PDO3	
Transmit PDO4	
receive PDO4	

If you want, you can change the default mapping of the Tesys U.



Important Note: In case of using Multifunction control Unit, you have the choice between “R” remote configuration mode or “L” local configuration mode (for more details see the training documentation or the User manual page 62-63)

Do not forget to configure the Multifunction control unit by the push buttons in front of the product. The default configuration is Remote mode “R”.

(10) Check the cable

Check the CANopen cable. The best way is to take the cable and to plug it into a device already working on the CANopen fieldbus. (ex: a drive)
If it is not possible, take a ohmmeter and test each pin of the cable. Check first if there is no connection between the shield and the ground.

Pin number	Signal	Description
1	Reserved	
2	CAN_L	CAN_L bus line (high dominant)
3	CAN_GND	CAN Ground
4	Reserved	
5	(CAN_SHLD)	Shielding
6	GND	Ground
7	CAN_H	CAN_H bus line (low dominant)
8	Reserved	
9	CAN_V+	CAN external power supply

(11) ERR LED

If the ERR LED is blinking, reset the warning by setting the bit 3 of the “703 Control of the communication” word to 1 (By default it's the second output word)

Obj.Idx.	Sub.Idx.	Parameter
2008	4	Control of comm module
%Qw43.140.0.0.1		2#0000_0000_0000_1000

This screenshot is taken from Unity Pro software



Note: After reset, set the bit to 0 again, otherwise you will never see a warning again! It's better to use Rising Edge.

V- Limitation

This document was written regarding Unity/PL7 software. Some parts of this document can be used for other PLC but not all the document. We recommend to refer to the user manual for LULC08 to follow this document and to have more information about LULC08. We have the main information in this document to help you but you can find other information to enhance your diagnostic of the application.