How to manage UL Power Supply for Lumberg Active Components

Carmine D'Errico - 2019-08-22 - How-to articles

|	
Affected Modules	0980 ESL 390-1x1
Network type	Profinet
PLC	Siemens

Problem Description

Current behaviour: After switching of the U_L power supply from the system chain, an error in the PLC-system status is received.

Expected behaviour: After switching off the U_L power supply from the system chain, *PLC "Diagnostic" error should not be displayed on the PLC error LED*

Configuration: Network Topology

Device Description	*IP Adress*
Laptop	192.168.1.250
Siemens PLC	192.168.1.1
Belden Industrial Switch	192.168.1.20
0980 ESL 700	192.168.1.8
0980 ESL 390-1x1	192.168.1.3

192.168.1.250

192.168.1.1

Port 3

Port 1

Switch

Port 2

Port 4

Port 1

Port 1

192.168.1.8

192.168.1.3
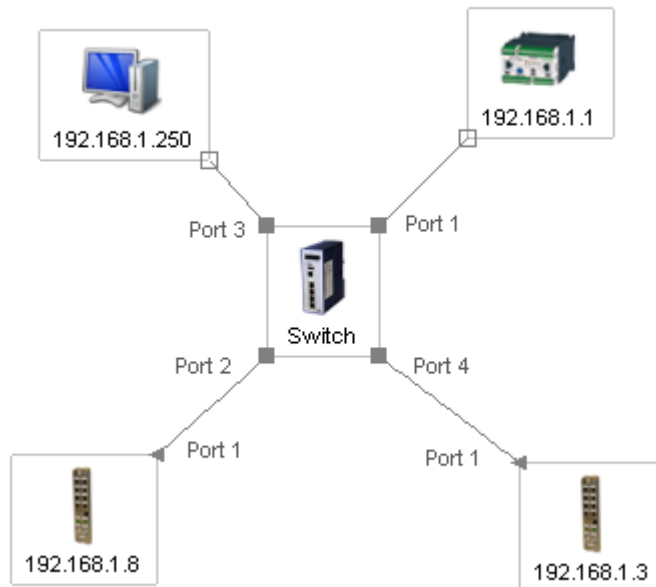
Please find in the following section the system setup from the Lion-P web page:

System

Connection Status		General Information	
Network		**System**	
Port 0	100 MBit/s FULL	Time Since Startup	10333 s
Port 1	No Link	System Message	OK
Phy MAC Address	3C:B9:A6:00:F5:3E	Restarts of IO-System	0
		Firmware	
IP Address	192.168.1.3	Name	Belden - PROFINET RT
Subnetmask	255.255.255.0	Version	V2.1.0.9-2.2 (F10017)
Gateway	192.168.1.3	Date	23.5.2018
Profinet		**Device**	
State	Connected	Name	0980 ESL 390-121
Name of Station	digitalio1	Ordering Number	934879007
		Hardware	V7.01
		Serial Number	00416
		Production Date	45 / 2018

Lion-M device:

Status

| Ethernet Status			General Information	
Port	**Current Status**		**System**	
0	100 MBit/s FULL		Time Since Startup	10408 s
1	No Link		System Message	OK
			Restarts of IO-System	0
MAC Address: 3C:B9:A6:00:08:5B			**Firmware**	
			Name	BELDEN - PROFINET RT
EIP Status			Version	V1.1.7.2
			Date	7.9.2018
Assembly	**Size**	**Direction**	**Device**	
(none)	(none)	(none)	Article Number	000109628000401188
(none)	(none)	(none)	Production Week	13
			Production Year	8
Current State: Connected				

Project simulation in TIA portal

When you choose to deactivate the UL source, it will affect all actors in the downstream of the network.
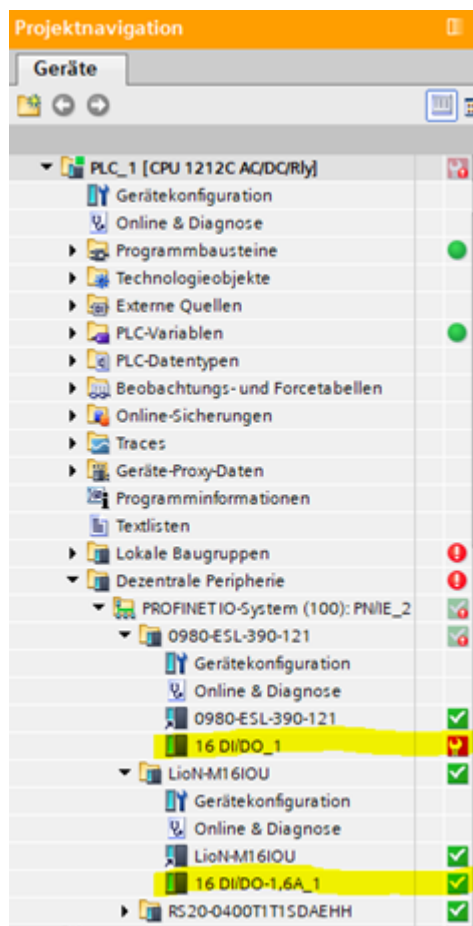
Therefore it is important to divide the sources of errors into two types: the error due to the absence of the UL source and the error due to the absence of the UL source at the

peripheral points of the automation infrastructure.

Here we build up a network with all the U_L power supply. NO ERROR APPEARS.
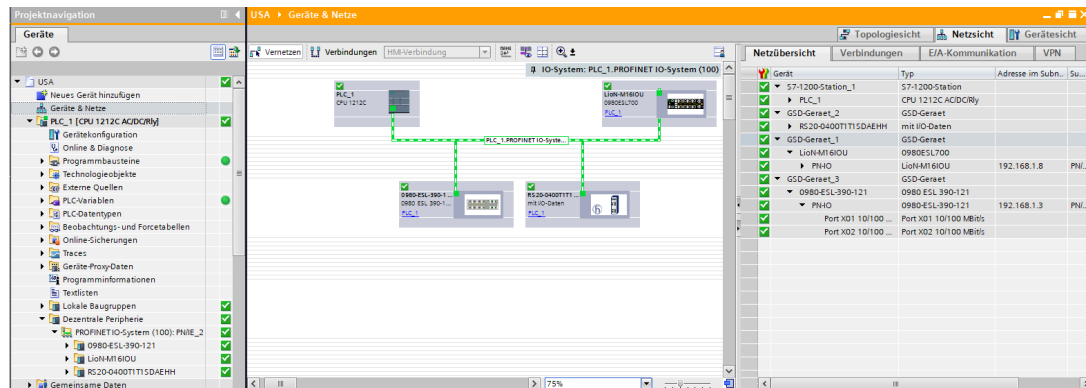
Now we switch off the UL Power Supply for both the modules

We notice that module 0980 ESL 390-1x1 shows an error. These are the reasons:

- The module provides an option to manage the error propagation for **UL upstream power supply**
- The module provides the option to manage the propagation **UL Power Supply error for downstream components**

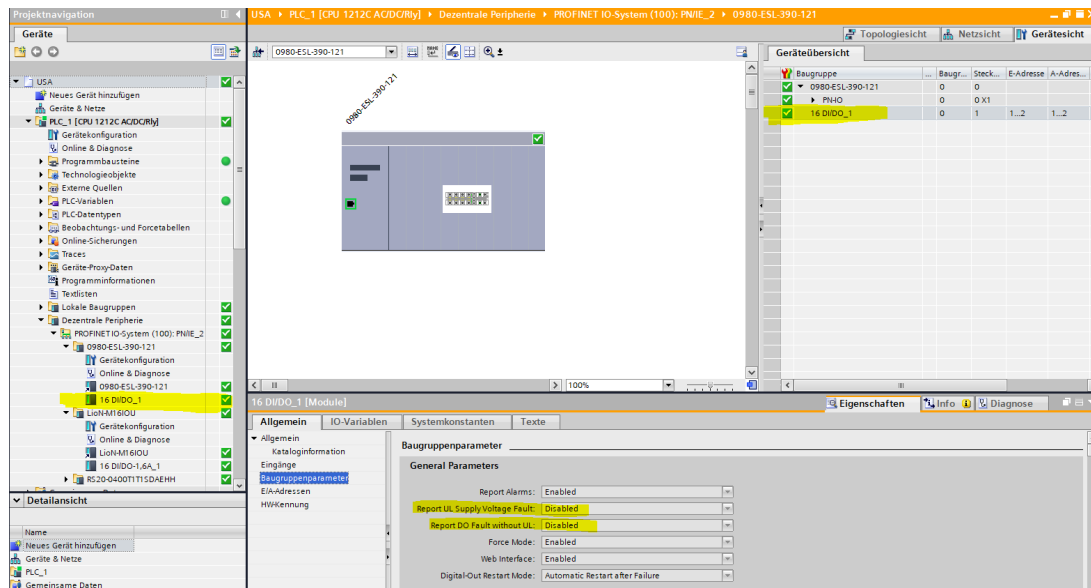# Possible workaround description for 0980 ESL 390-1x1

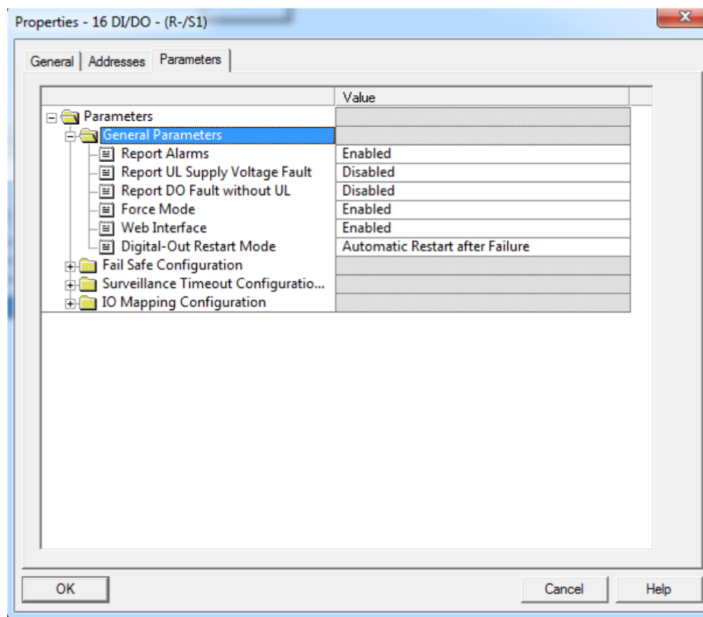For this module, you have these two options which you can check:
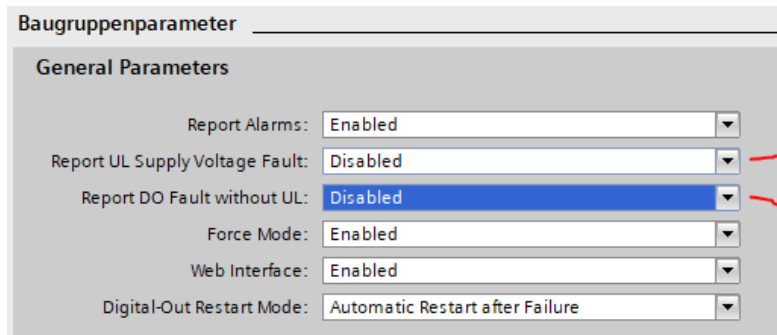
The option 1 deactivates the error propagation for UL Power Supply in upstream.

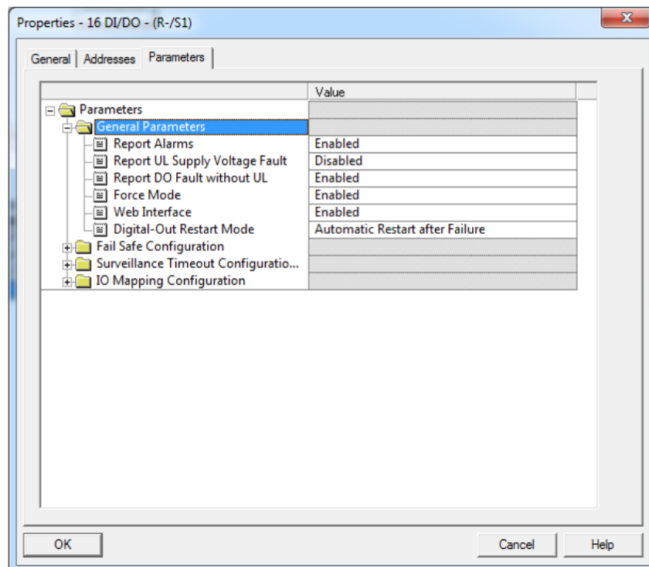The option 2 deactivates the error propagation for UL Power Supply in the downstream

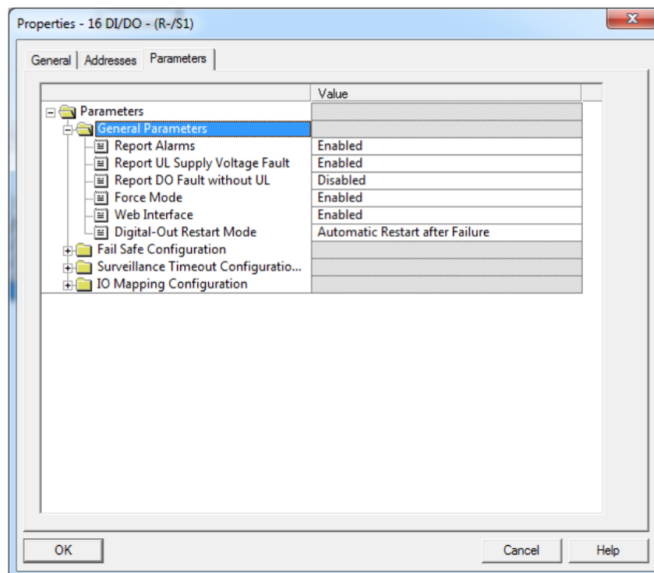This could probably be a workaround for your problem.

Other suggested setting configurations with relative tested behaviour

No Diagnosis without UL and activated Output

Diagnosis without UL only for activated Output

Properties - 16 DI/DO - (R-/S1)

General | Addresses | Parameters

	Value
Parameters	
General Parameters	
Report Alarms	Enabled
Report UL Supply Voltage Fault	Enabled
Report DO Fault without UL	Disabled
Force Mode	Enabled
Web Interface	Enabled
Digital-Out Restart Mode	Automatic Restart after Failure
Fail Safe Configuration	
Surveillance Timeout Configuratio...	
IO Mapping Configuration	

OK   Cancel   Help

UL diagnosis when off or below 18V