

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 |

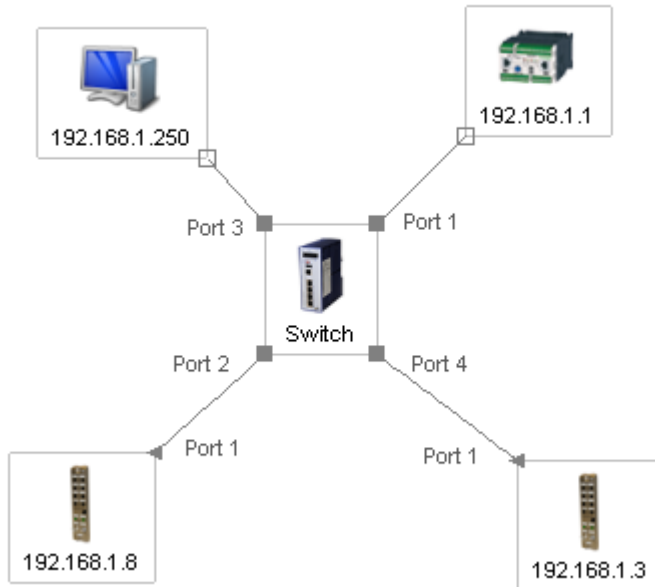
Problem Description

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 |



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

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

Lion-M device:

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

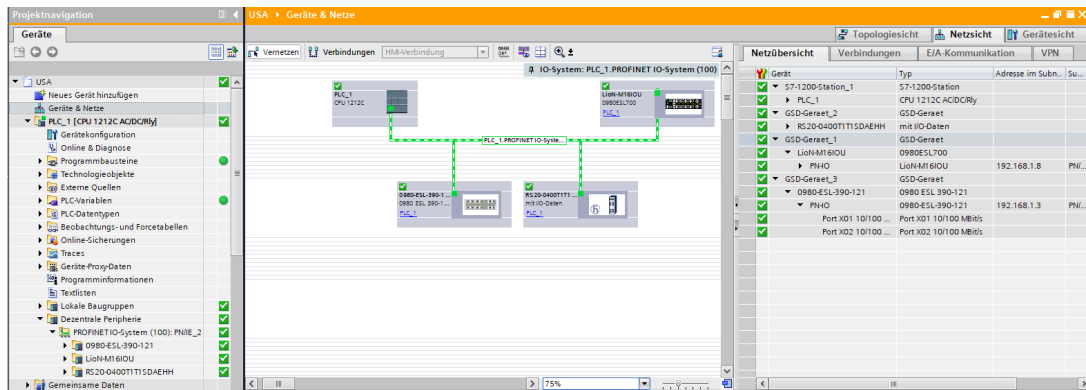
Project simulation in TIA portal

When you choose to deactivate the UL source, it will affect all actors in the downstream of the network.

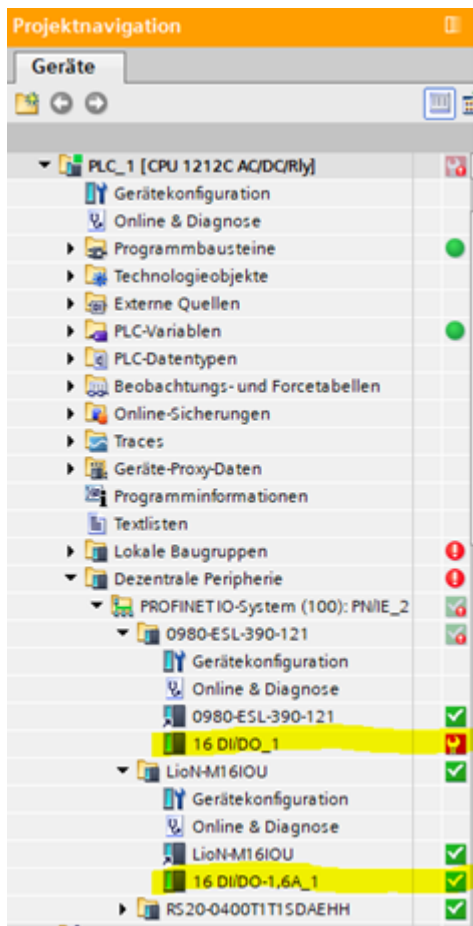
Therefore it is important to divide the sources of errors into two types: the error due to the absence of the UL source and the error due to the absence of the UL source at the

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

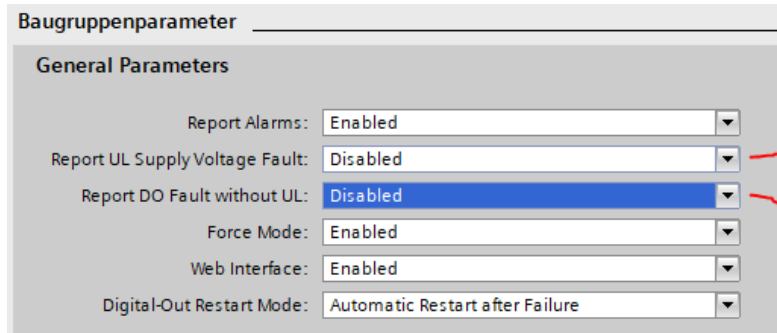


We notice that module 0980 ESL 390-1x1 shows an error. These are the reasons:

- 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

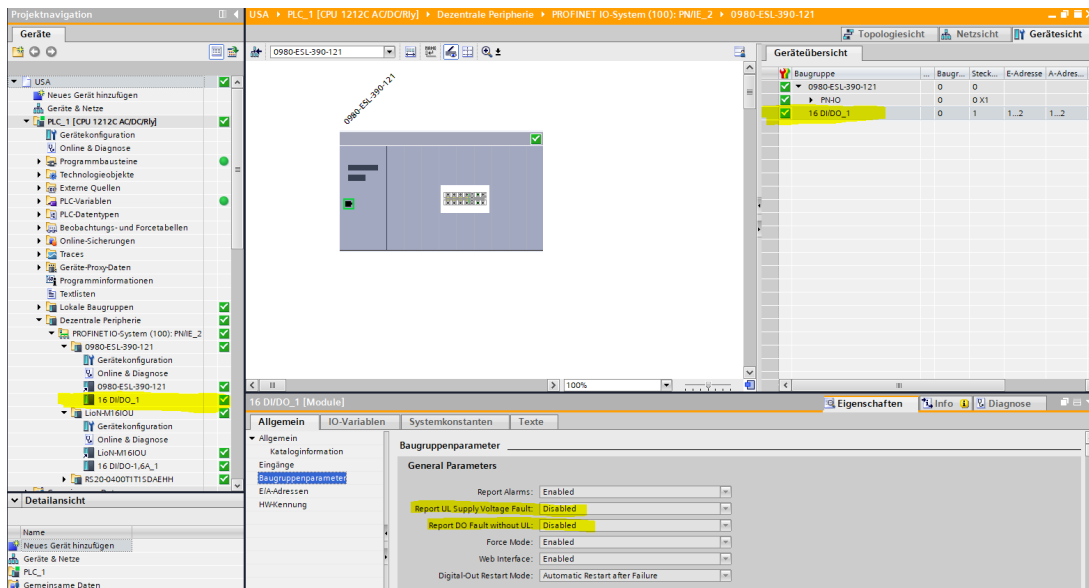
For this module, you have these two options which you can check:



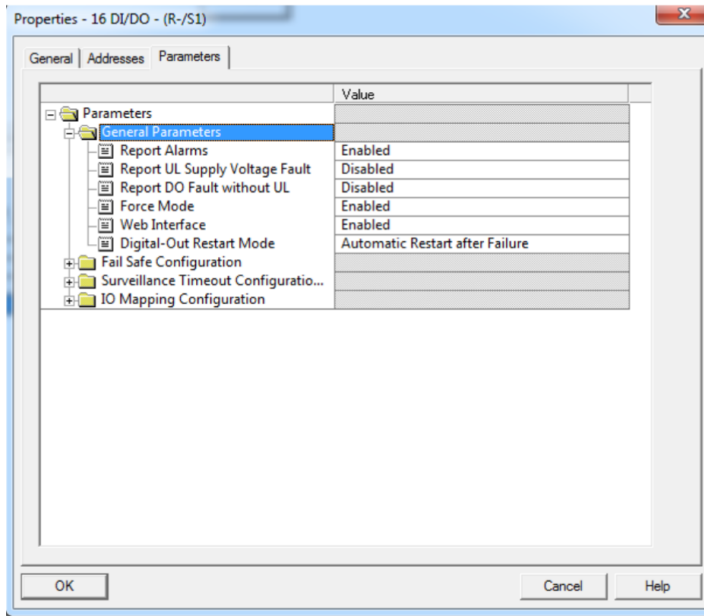
The option 1 deactivates the error propagation for UL Power Supply in upstream.

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

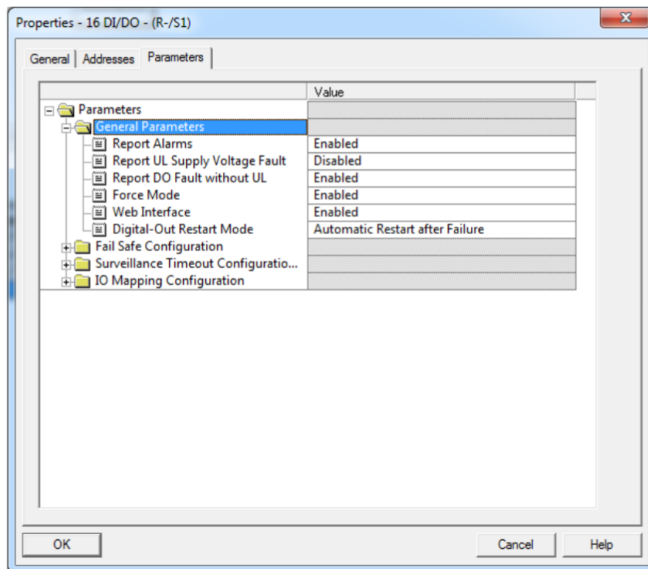
This could probably be a workaround for your problem.



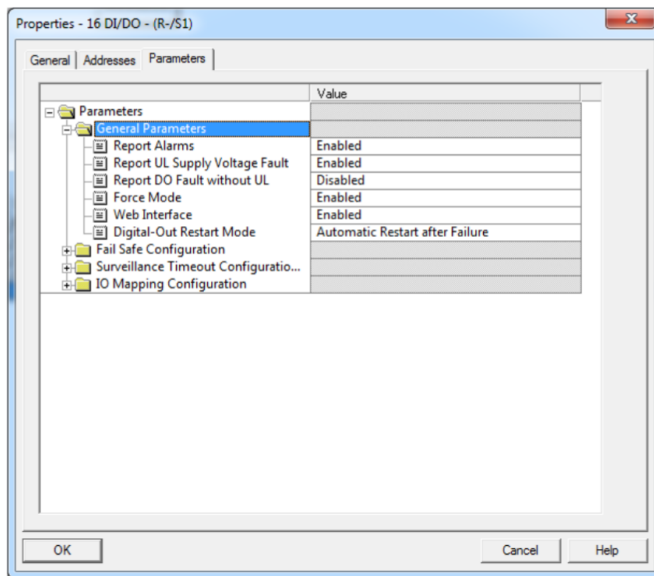
Other suggested setting configurations with relative tested behaviour



No Diagnosis without UL and activated Output



Diagnosis without UL only for activated Output



UL diagnosis when off or below 18V