Frequently asked questions
Pluto Safety PLC

When do I need to use an IDFIX on the Pluto?
You need the IDFIX when you have two or more Plutos connected together on the Pluto bus. All units in the system need an IDFIX.

What kind of data can I read from the Gateway?
You can read all Global Variables, i.e. the status of all safety inputs, all global memories and the status of all safety outputs of all Plutos connected together on the Pluto bus. It is also possible to read local memories and register values by using the Request/Respond function. This function you need to create in the master system and an example of how to make the program code you will find in the Gateway manual.
Global variables for the A20 (B20, A16, B16) and B46 family is:
Ix.0 – Ix.7
Ix.10 – Ix.17
GMx.0 – GMx.11
Qx.0 – Qx.3

Can I write data to the Pluto system via a Gateway?
Yes, you need to activate the gateway address in each Pluto where you want to read the data. You can receive data in all Pluto's in the system. The function blocks required is included in the Pluto Manager software.

Where can I get the Pluto Manager software?
The software is free and you can download it on our web site at www.abb.com/lowvoltage (Control products > Safety Products > Programmable Safety Controllers). To upgrade an old version of Pluto Manager you install the new version without uninstalling the old. All necessary files will be updated and no project files will be lost.

Where can I find documentation of the Pluto?
Manuals, software, certificates and other documentation can be downloaded from www.abb.com/lowvoltage (Control products > Safety Products > Programmable Safety Controllers). On this site you can also download the Pluto Manager with the manuals and other useful documentation added. These manuals you will then find under the Help menu in Pluto Manager.

**What function block should I use in my Pluto program?**
There are several function blocks included in the Pluto Manager software and there is also a manual called "Description Functionblock" where the blocks are listed with a explaining text of how the block is meant to be used. The description of the blocks is also available in the Pluto Manager software.

Why doesn't the function block work?
The most common cause of having problems with two channel (TC1S and similar) blocks or muting blocks is that inputs from different field sensors are being put to inputs IN1 and IN2 of a TC- or muting block, or several input signals have been combined on the IN1 and IN2 inputs of the blocks. The result of these program functions is often two channel faults. To avoid TC-faults use only signals from one sensor (Emergency stop and similar) to each function block. Use the output memory from the block to make your function.

Can I expand my Pluto system?

Yes, several Plutos can be connected together using the bus communication. A maximum of 32 Pluto units and 4 Gateways can be connected into one system. The units can then share the Global Variables between each other. The example shows the PLC code for Pluto no:0 using the input from Pluto no:1 PLC code in Pluto 0.
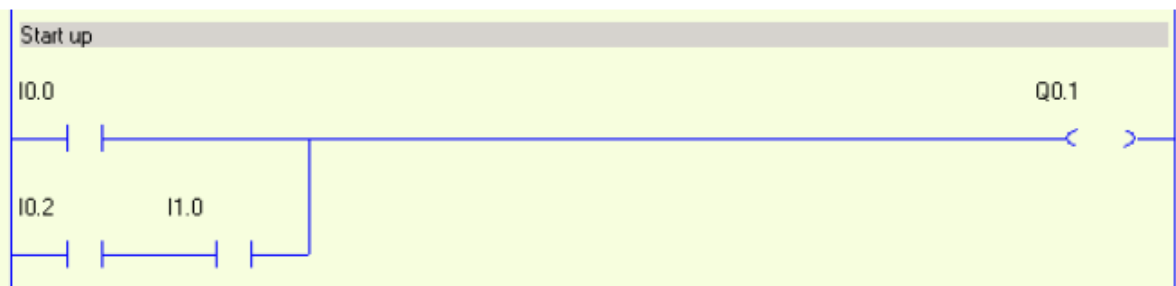
Why do I get "Communication Timeout"?

Pluto Manager has lost the communication with the Pluto unit. It can be several reasons for this. Verify that you are using the correct com-port and that no other application is using the same port.
Check the cable between Pluto and the PC, is the plug connected properly on the Pluto?
If you are using a USB-com adaptor, check that you are using the same com-port as the adaptor has been given. Select the com-port address under "Preferences".

Test the communication by connecting the PC to Pluto and open "Terminal Window" from the "Tools" menu. Press the ESC key on your PC a five times and you shall be prompted Pluto_a>

You can also test the communication by switching the power off and then on again meanwhile you have the Terminal Window running and your PC connected to Pluto. You shall then get a similar message:

```
*****************************************
* Pluto safety OS  Vers A1.02.00/2.2.2 *
* (c) Jokab Safety AB   2004-10-19     *
* Hardware Ver 07 - C00000   Pluto A20 *
* Unit serial# 000 183 064 192    (01) *
*****************************************
```
Hit Escape twice to enable monitor communication
Pluto_a>

Why doesn't the "Reset Button" function work?

One reason can be that the I/O is wrong configured in the I/O-Option window. Check that "Light Button" is selected for the I/O and not "In and Out".

Why do I get an ER alarm when I press the reset button?

A common reason is that the diode you need to use to get this function is wrong connected, the proper connection is shown below. The diode can be a standard 24VDC diode (1N4004).
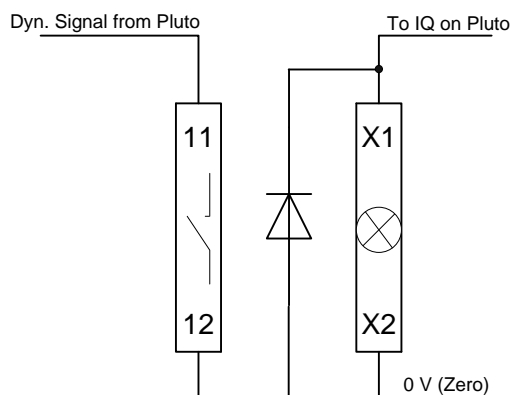
Why do I get ER18....?

There is something wrong with the communication between the Plutos and the most common fault is the bus cable. Is the bus proper terminated or is there more that two resistors connected? Check the Commissioning guide under Help-> Etc-> Pluto Commissioning