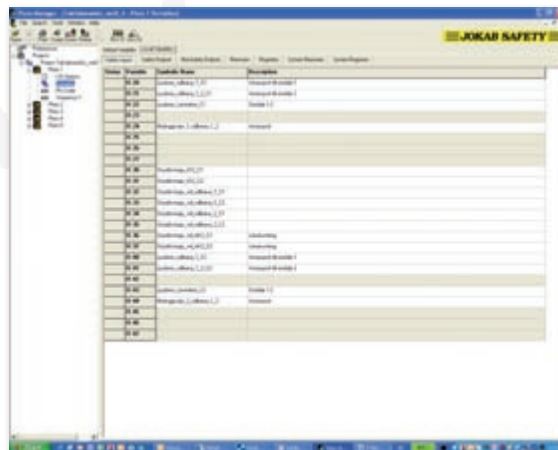
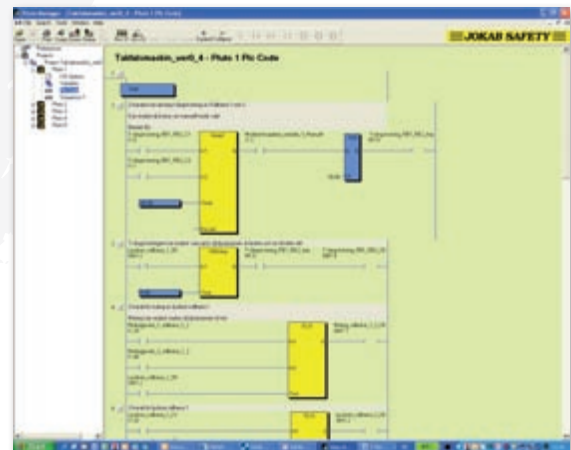
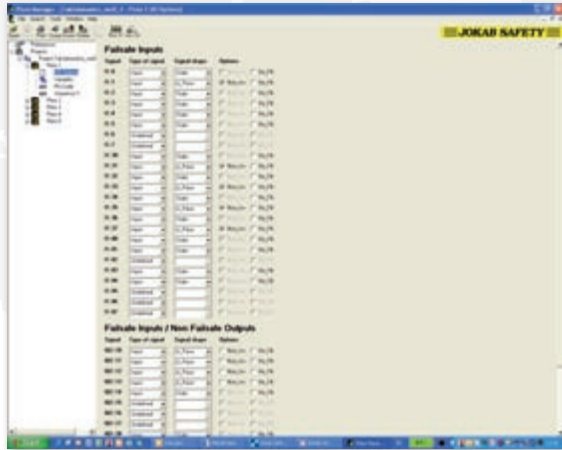


Pluto Manager

Programming tool for Pluto and AS-i





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Descriptions and examples in this book show how the products work and can be used. This does not mean that they can meet the requirements for all types of machines and processes. The purchaser/user is responsible for ensuring that the product is installed and used in accordance with the applicable regulations and standards. We reserve the right to make changes in products and product sheets without previous notice. For the latest updates, refer to www.jokabsafety.com. 2011.

Programming tool

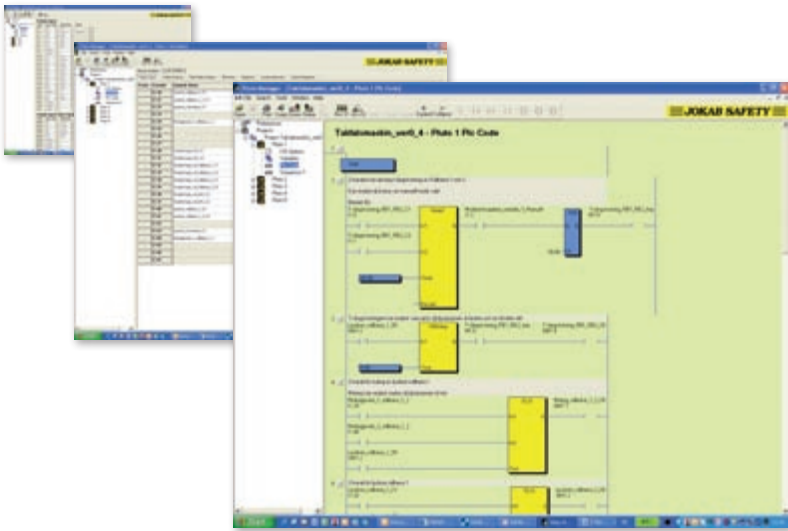
Pluto Manager

Use:

Software for the Pluto safety PLC
A tool to structure the safety functions

Features:

Free software
Downloaded from
Jokab Safety's website
Ready to use function blocks
for your safety components
Contains TÜV-approved
function blocks
Provides an overview of the
current projects and your
Plutos
Easy programming through
ladder language



A programming tool for your safety functions

Pluto Manager is a software tailored for the safety PLC Pluto. Programming is done in ladder and together with the function block creates the structure of your safety functions. The software comes with predefined function blocks approved by TÜV to facilitate the work on designing the safety functions. Pluto Manager gives you a structured overview of Pluto's, gateways and peripheral components in large and small projects. It gives you an overview and control of the sensors and actuators, and the reactions between them. Pluto Manager also contains manuals for the software and hardware that are connected and needs to be handled through the program.

The interface gives the option to get the status directly from Pluto's two bus options, AS-i and Pluto bus. There are also diagnostic functions and the option to export data.

Systematic working method through project management

Step 1 - Configuration of I/O

In every started project, each Pluto is defined individually. Its inputs and outputs are configured as desired and depending on what they connect to. Pluto's IQ ports are also configured here as inputs or outputs, dynamic or static signals.

Step 2 - Naming of variables

After configuration the system's variables are determined. Inputs (I), outputs (Q), remanent memories (M), global auxiliary memories for bus communication (GM) and registers (R) are given names that can be used in place of the actual variable designation in the PLC program.

Step 3 - Ladder programming

The program is built using the named variables connected to inputs and outputs. The programming language has a full range of instructions, similar to standard PLCs on the market, with timers, arithmetic, sequence programming etc.

The project is then downloaded to Pluto via a programming cable. This program is distributed simultaneously through bus communication to the other Plutos in the project. In this way, you need only access a single Pluto where each Pluto gets the right information specified in your project.

Pluto Manager is included when purchasing the safety PLC Pluto. The software is Windows based and can be downloaded free from Jokab Safety's website.

List of standards and special function blocks for Pluto Manager

The safety designer has complete freedom to program the safety functions or to use TÜV-approved pre-defined safety function blocks.

Blocks in the standard library (func05):

1. Two-channel function with input for start
2. Two-channel function with test input
3. Two-channel function with test and reset inputs, and reset indication. See example.
4. Two-channel function with simultaneous requirement.
5. Single channel function with input for start.
6. Single channel function with start and test inputs.
7. Single channel function with reset and test inputs.
8. Two-channel function with max. time limitation (equivalent to JSHT2). Time begins to count down when both inputs are activated.
9. Two-channel function with max. time limitation (equivalent to JSHT2). Time begins to count down when one of the inputs is activated.
10. Single channel pulse function, e.g. for timed reset.
11. Two-channel pulse function, e.g. for timed reset.
12. Two single channel bypass connection functions with max. time limiting.
13. Single channel bypass connection function with max. time limiting.
14. Two-channel bypass connection function with max. time limiting and simultaneous requirement.
15. Two-channel safety function with max. time limited bypass connection.
16. Two-hand control. See example.
17. Counter which counts up to preset value.
18. Counter which counts down from preset value to 0.
19. Off delay.
20. Muting lamp_Q16.
21. Muting lamp_Q17.
22. Muting lamp W_Q16. With possibility to set the power level in Watts.
23. Muting lamp W_Q17. With possibility to set the power level in Watts.
24. Light curtain with single cycle operation.
25. Light curtain with single cycle operation and reset selection.
26. Multiplication.
27. Division.

Other function blocks

1. Safety absolute encoder.
2. Electronic cam.
3. External communication.

Special function blocks:

1. Program library with program block for eccentric shaft presses.
2. Custom special blocks can be made available.

Block 3

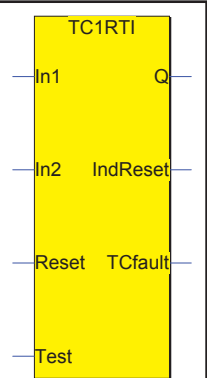
TC1RTI

Two-channel function with test and reset inputs, and reset indication.

- In1 and In2 are safety inputs, to which the safety device outputs are connected.
- Test is a condition that must be true at the moment of switching on, and can be used for monitoring external components. Test must be true before the Reset input closes, i.e. the function block cannot be initiated by Test.
- Reset is a supervised reset input and must be activated (positive flank) after the other inputs have activated for the function output to be activated.
- The IndReset output is activated when the function block is 0 and flashes when the function block is ready for resetting.
- The TCfault output is activated in the case of a two-channel fault, i.e. if the function block is activated and only one of In1 and In2 opens and closes.

Description

The function block acts as a conventional two-channel safety relay with dual and supervised inputs (In1, In2).



Block 16

Two-hand control for devices with NO/NC + NO/NC

- Right_NO is right handed NO contact
- Right_NC is right handed NC contact, etc.
- The test is a condition that must be met before any of the other inputs are actuated and can be used for monitoring external components.

Function

In stand-by, Right_NO must be 0, Right_NC 1, Left_NO 0 and Left_NC 1. In order to start, these four inputs switch the condition within 0.5 seconds and then retain their conditions. After shutdown, all inputs must return to stand-by before any restart can be made.

