

# Why should you use the Pluto safety-PLC?

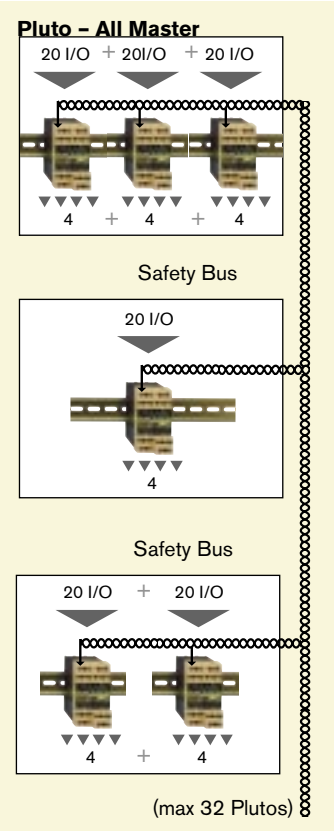
## Approvals:



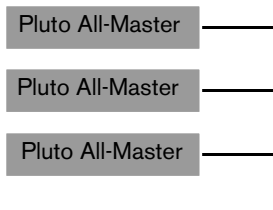
### - to simplify design and alterations of safety systems!

Pluto is a new "All-Master" Safety PLC concept, that simplifies the design of safety systems and achieves the highest safety (category 4) according to EN 954-1. The key difference between Pluto and conventional safety PLC's is that there is no "Master-Slave" relationship between the control units connected to the safety bus. All Pluto's are 'Master' units and can see each others inputs and outputs. Using this concept each Pluto can take decisions about its own immediate safety environment. This concept enables simple communication and easy alterations of the safety system. With the use of a 'Gateway' device, information from a Pluto network can be transferred to other bus systems thereby creating even larger systems. Gateway units are readily available for a number of different bus-systems, i.e. Profibus, CanOpen, DeviceNet.

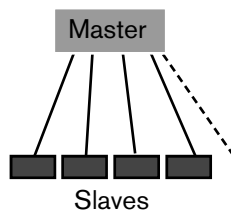
Pluto offers an economic solution for both single machine and for large integrated machine systems. Of the Pluto's 20 I/O, 8 can be configured as both inputs and outputs (sometimes even as inputs and outputs at the same time), 4 are failsafe outputs independent of each other. 32 Plutos can be connected to a twisted pair safe bus system. This enables the amount of physical I/O connections to be expanded from 20 to 640.



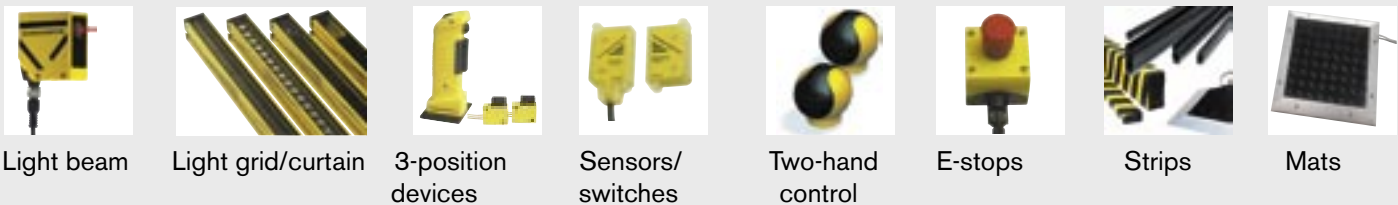
### Our solution with All-Master



### Traditional, Safety-PLC



### - to supervise safety devices!



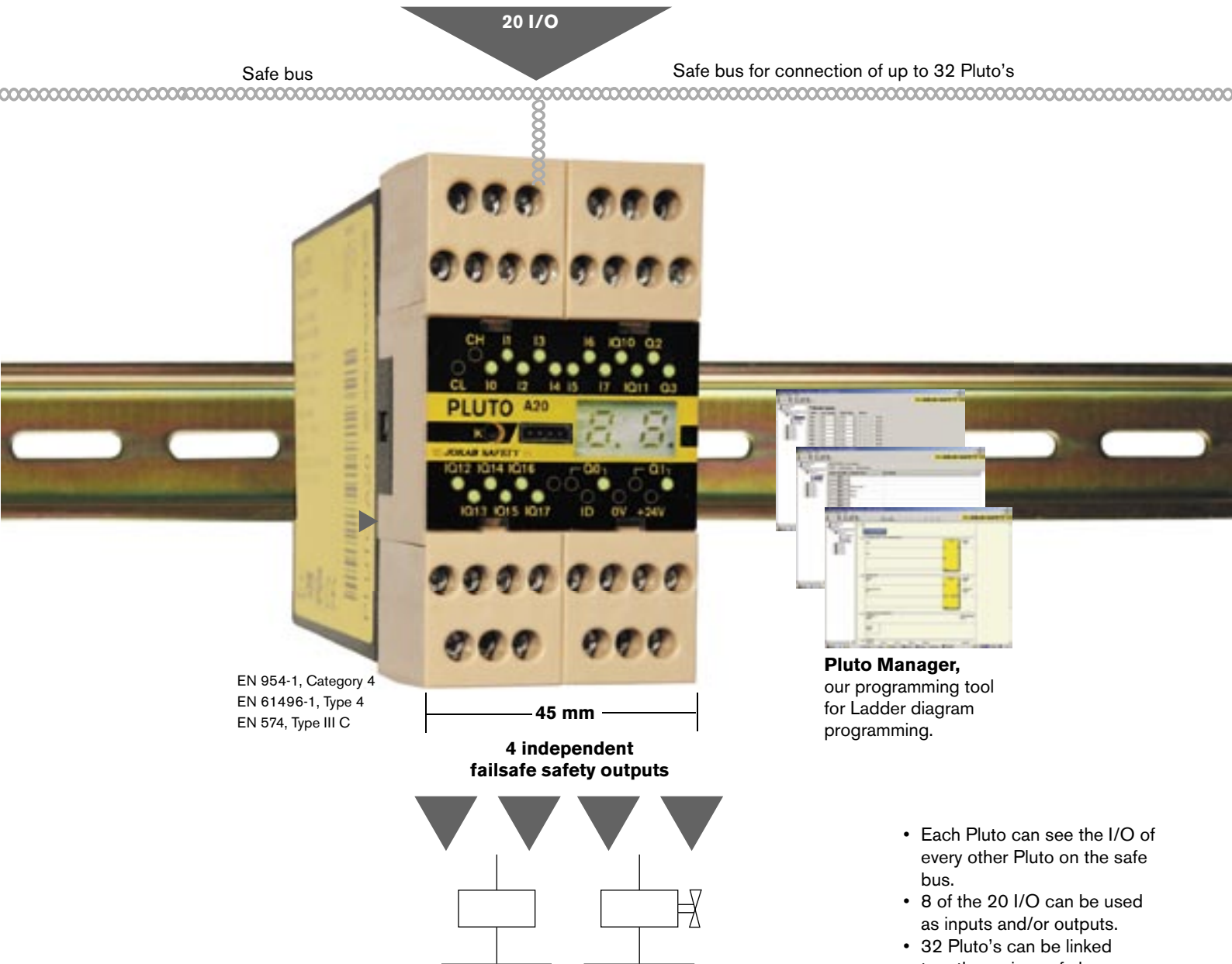
Most safety devices on the market can be connected directly to the Pluto unit. By using dynamic signals together with sensors from Jokab Safety only one input is needed for category 4, compared to two inputs for other PLC's on the market. It is also possible to connect up to 10 sensors in series to

one input on Pluto according to category 4, i.e. non-contact sensor Eden, light beam Spot and E-stops with Tina. Even mechanical switches can be connected to the 'dynamic' safety circuit using Jokab Safety's Tina adaptors.

**- for easy programming of safety systems!**

Pluto is programmed in "ladder" format with a PC computer and the "Pluto Manager" program. The program language has a comprehensive instruction set with Timers, Registers and Sequence programming fully comparable to that of conventional PLC systems. The user can choose to programme with TÜV approved safety function blocks and/or

conventional PLC logic. Customized function blocks are possible as well. Pluto is also extremely small (45 mm wide), especially when compared to other safety PLC's. The detachable connector blocks simplifies connection, exchange and trouble-shooting.



EN 954-1, Category 4  
EN 61496-1, Type 4  
EN 574, Type III C

45 mm

**4 independent failsafe safety outputs**

**Pluto Manager,**  
our programming tool  
for Ladder diagram  
programming.

- Each Pluto can see the I/O of every other Pluto on the safe bus.
- 8 of the 20 I/O can be used as inputs and/or outputs.
- 32 Pluto's can be linked together using safe bus communication. This gives a total of 640 I/O.

**- why should I choose Pluto?**

- Simple programming
- Easy to configure and install
- Up to 640 I/O
- Highest safety level
- Free software
- Programming over the bus
- Can also be used as a programmable safety relay (Pluto S20)
- Training and support
- Cost effective safety solutions
- Jokab Safety has long experience in machine safety

**Pluto is available in 4 versions**

- Pluto A20
- Pluto B20
- Pluto B16
- Pluto S20