

# I/O Hardware Loop Training

This course covers the configuration and general setup procedures for the Analog and Digital In/Output Loops. Participants will set-up I/O hardware loops for Non-Intrinsic Safe and Intrinsic Safe Loops. The course includes hands on workshops and exercises using the different I/O Hardware loops.

**Who should attend?**

Instrument technicians and engineers involved in the installation and operation of CENTUMVP and ProSafe-RS Control and Safety Systems.

**Prerequisite knowledge**

Participants should have basic knowledge of process control used in the process industry. They should also have some experience with CENTUMVP and ProSafe-RS

**Program**

**Day 1:**

- Type of Digital In/Outputs loops for CENTUMVP
- Type of Analogue In/Outputs loops for CENTUMVP
- Type of Digital In/Outputs loops for ProSafe-RS
- Type of Analogue In/Outputs loops for ProSafe-RS
- 4-20 ma Field Instruments
- 4-20 ma HART Field Instruments
- Foundation Fieldbus Instruments
- 2 and 4 wire Analog Inputs
- Open and short line detection Digital Inputs
- Open and short line detection Analog In/Output
- Video Principals Intrinsic Safety Loops
- Exercise NIS Terminals boards and Cables
- Exercise IS Module boards and Cables
- Exercise Status of I/O loops HIS Operator Work Station
- Exercise Status of I/O loops SENG Station
- Exercise Proximity Switch Digital Input
- Exercise NIS PT-100 and YTA-70 Analog Input
- Exercise IS PT-100 and YTA-70 Analog Output
- Surge Protection Modules
- Detailed components I/O loops ,Relays, Fuse Terminals
- Pictures Marshaling, System Cabinets
- Exercise measure Voltage and Current with Multi meter
- Video gas detection
- Fire and Gas Field Equipment ProSafe-RS

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**More information**

This 1-days workshop is held in our training facility in YEF-NL Amersfoort. The training language is English or Dutch depending on the audience and trainer. For more information or would you like to sign-up for this training please sent your request to [training@nl.yokogawa.com](mailto:training@nl.yokogawa.com).