PINTSCH
Safety for Rail

Axle Counter System PINCLIRIO 400

Track vacancy detection and more.

August 2022

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Axle Counter System

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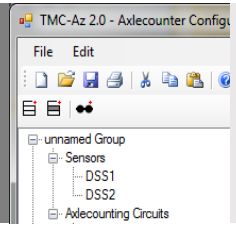
System-Applications



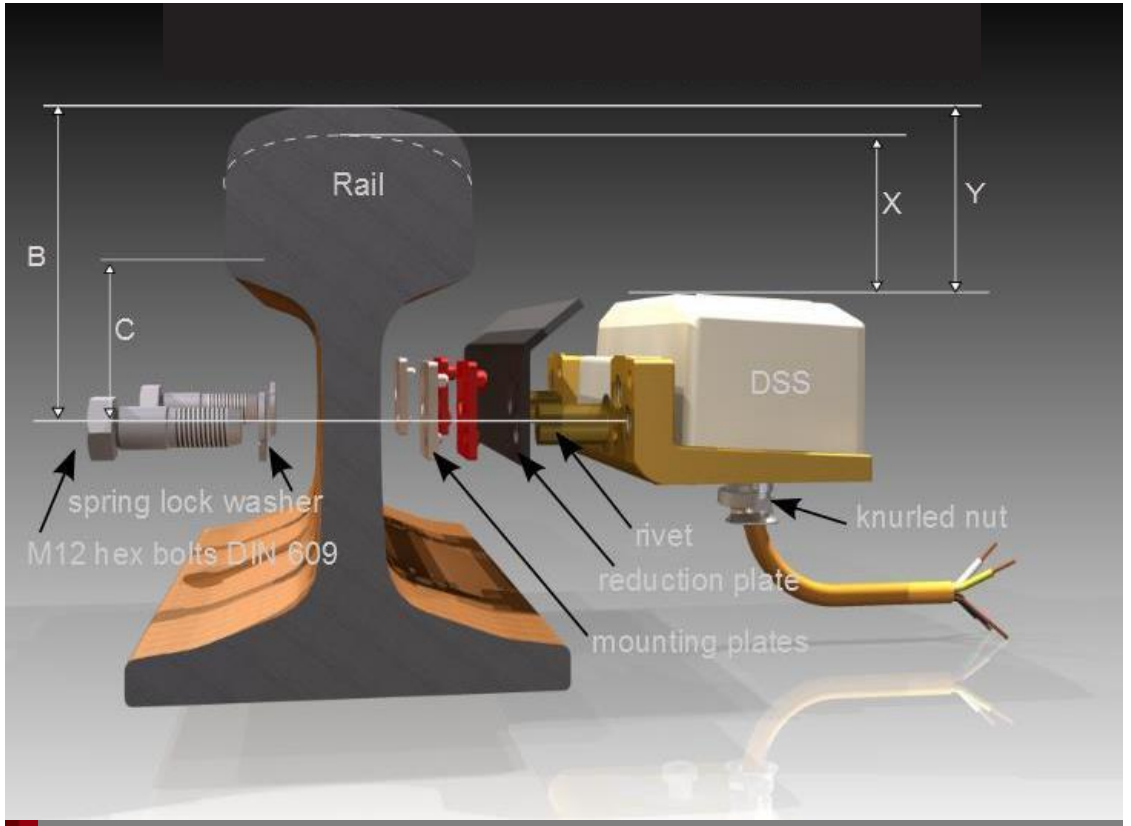
- *Track vacancy detection and more*

Wheel Sensors

Wheel sensor DSS400RE

DSS400RE

- Type code: 2N59-1R-400RE-40
- *Certified for Safety Integrity Level - SIL 4*
- Application:
  - Wheel detection, direction detection
  - Speed measurement
  - *Axle counter systems SIL4*
- v_{max} = 250km/h
- *Loosening detection*



Radsensor vom Typ DSS400RE (Montageprinzip)

Wheel Sensors DSS250-XX

DSS250-40

- Replacement type for DSS200-40
- *SIL2*
- Application:
  - Wheel detection, Direction detection,
  - Speed measurement, Axle Counter Systems
- v_{max} = 250km/h

DSS250-45

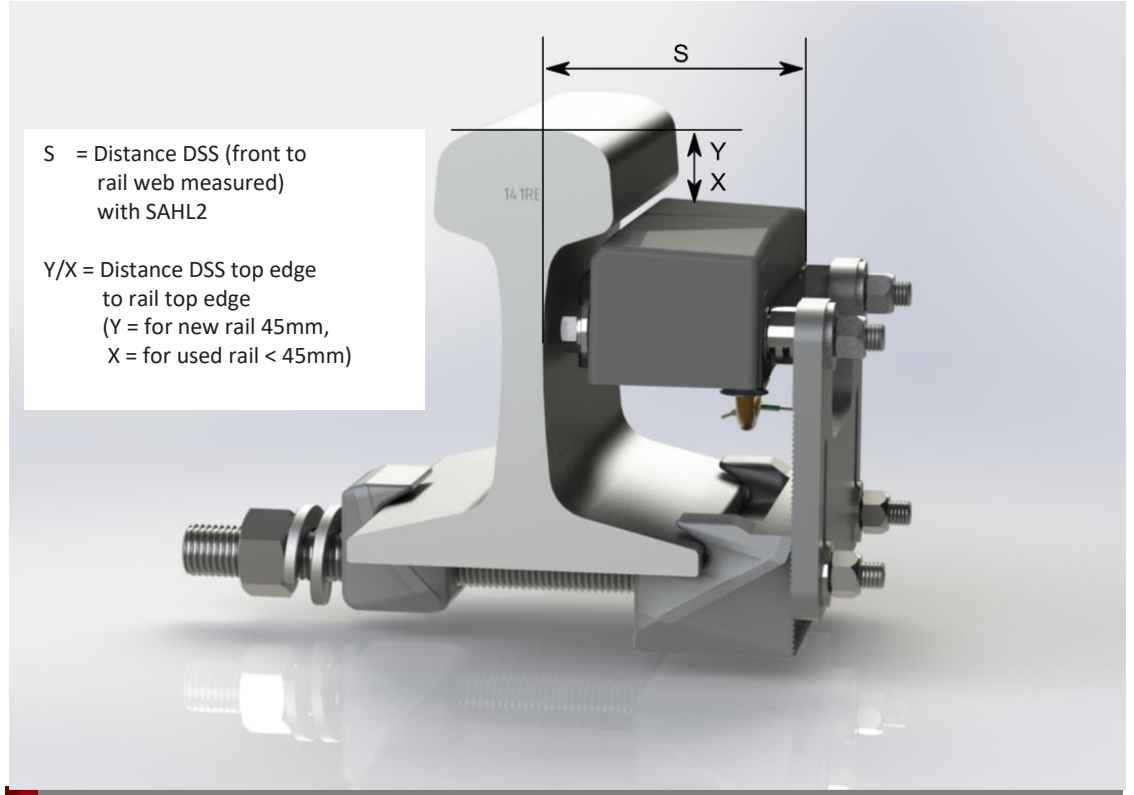
- Replacement type for DSS200-45
- *SIL2*
- Application:
  - Shunting Applications (ZBA, EOW, RaStw)
- v_{max} = 60km/h
- NAMUR-Interface

Wheel sensor type DSS250

Wheel Sensor DSS250

Benefits:

- Elektronic adjustment with test device R58/135.
- Proven, reliable technology with durable design.
- Simple installation using standard parts (bolts with thread, nuts, spacers...).
- Simple and cost effectice fixation clamp type SSK8.



DSS250 fixation clamp type SSK8

Testing device type R58/135

- Electronic tuning of wheel sensor types DSS250 with automatic adjustment.
- Connectivity and operation without line interuption.
- Automatic storage of adjustment data.
- Logging function.
- Read out of data via mobile app.

Testing device type R58/135

Axle Counter System PINCLIRIO 400 (AZ 2.0)

PINCLIRIO 400 (AZ 2.0)

A new system – What‘s new?

- **efficient**
- **compatibel**
- **networking**

PINCLIRIO 400 (AZ 2.0)

A new system– What's new?

- **efficient**
  - **only 3 (three) different modules**
  - **space saving hardware**
  - **less wiring**
  - **Project engineering via software engieering**

PINCLIRIO 400

PINCLIRIO 400 (AZ 2.0) – Evaluation unit

A new system– What's new?

- **efficient**
  - **only 3 (three) different modules**
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  - Project engineering
    via software engieering

Modules NET01, IOB01, AZB01

Axle counter module AZB01

A new system– What's new?

- **efficient**
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Baugruppe AZB01

- ☑ Interface for 2 (two) wheel sensors DSS
- ☑ Evaluation of 2 (two) logical counting spots
- ☑ Evaluation of up to 2 (two) sections
- ☑ CAN-bus for internal networking inside the evaluation unit

I/O-Module IOB01

A new system– What's new?

- **efficient**
  - **only 3 (three) different modules**
  - space saving hardware
  - less wiring
  - Project engineering via software engieering

Baugruppe IOB01

- ☑ Relay interface for hardware I/O of 2 (two) sections
- ☑ Opto coupler inputs for read-in of 2 (two) reset commands of 2 (two) sections
- ☑ CAN-bus for internal networking inside the evaluation unit
- ☑ 3-digits number display for counting numbers

Network module NET01

A new system– What's new?

- **efficient**
  - **only 3 (three) different modules**
  - space saving hardware
  - less wiring
  - Project engineering via software engieering

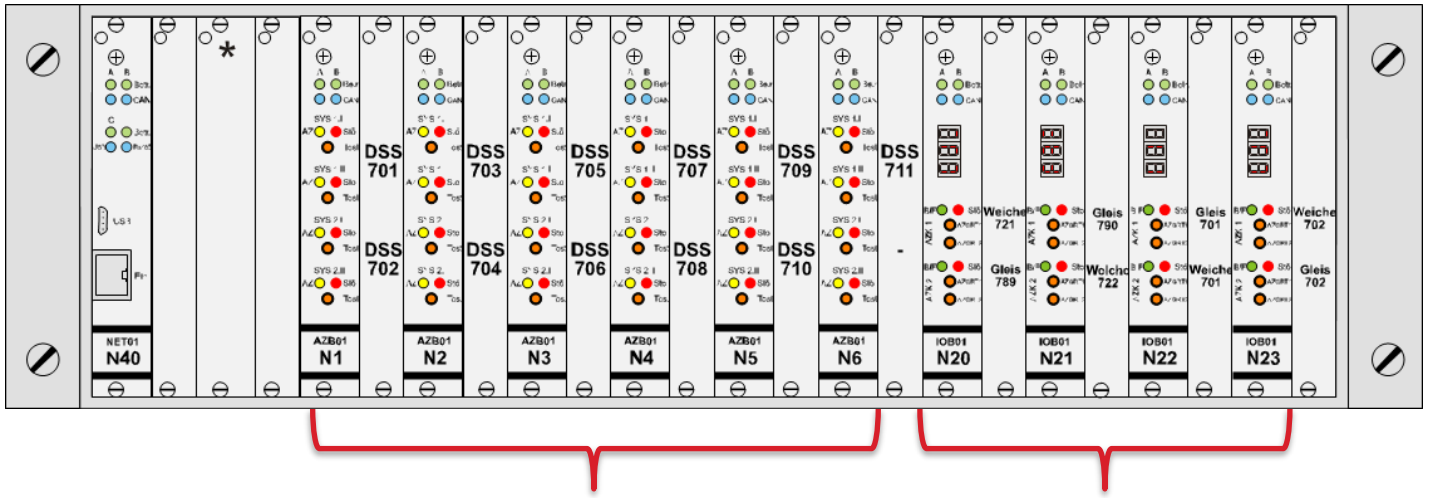
Baugruppe NET01

- ☑ Ethernet-interface for networking of axle counter units and serial link to signalling system
- ☑ Storage of configuration data of large scale AC systems
- ☑ CAN-bus for internal networking inside the evaluation unit
- ☑ USB-interface for Diagnosis and service

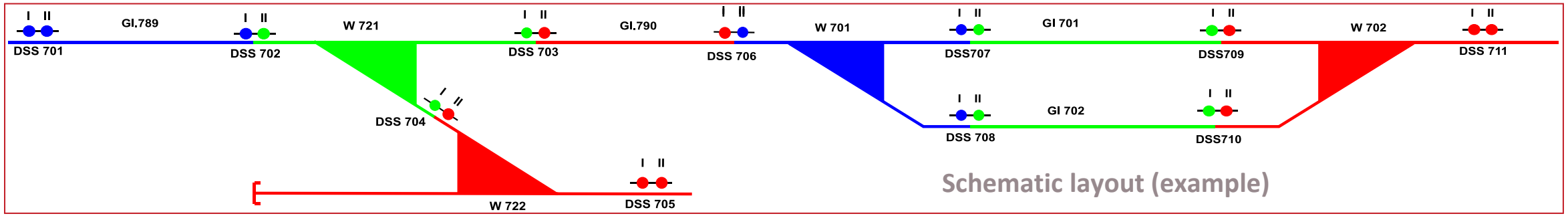
PINCLIRIO 400 (AZ 2.0) – Evaluation unit

A new system– What's new?

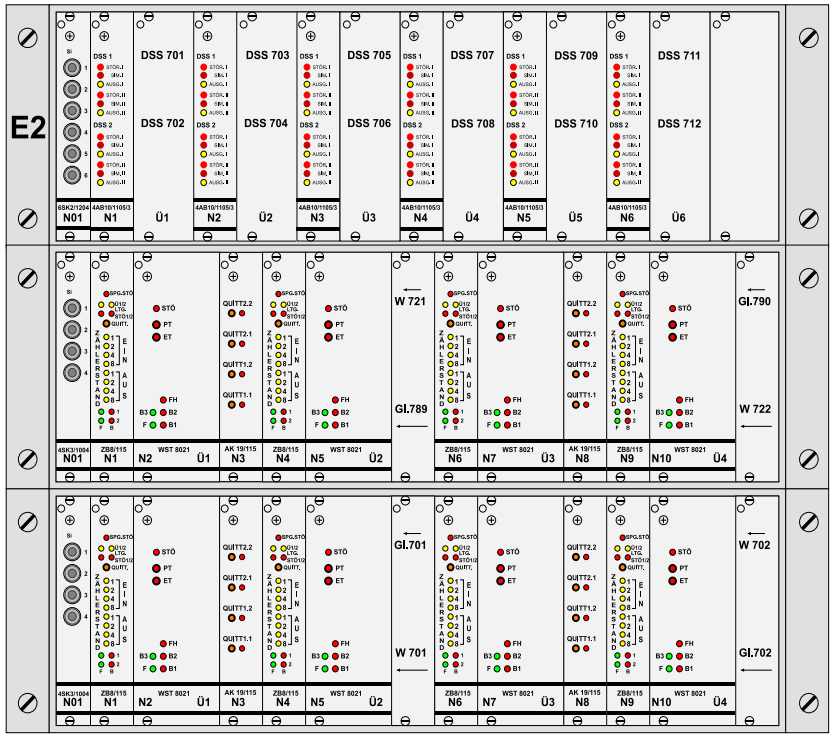
- **efficient**
  - only 3 (three) different modules
  - **space saving hardware**
  - less wiring
  - Project engineering via software engieering



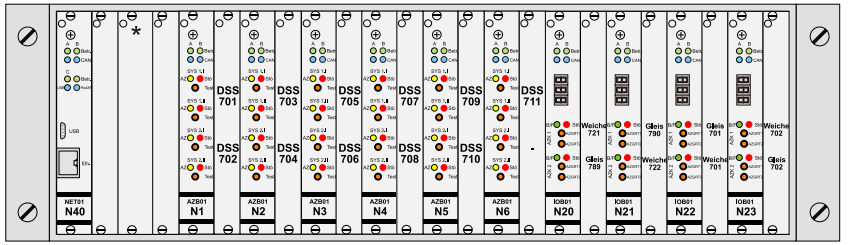
One 19“-Rack = (e. g.) 12 Wheel Sensors DSS + 8 Axle counter sections



TAZ II (S295)



TMC-AZ 2.0

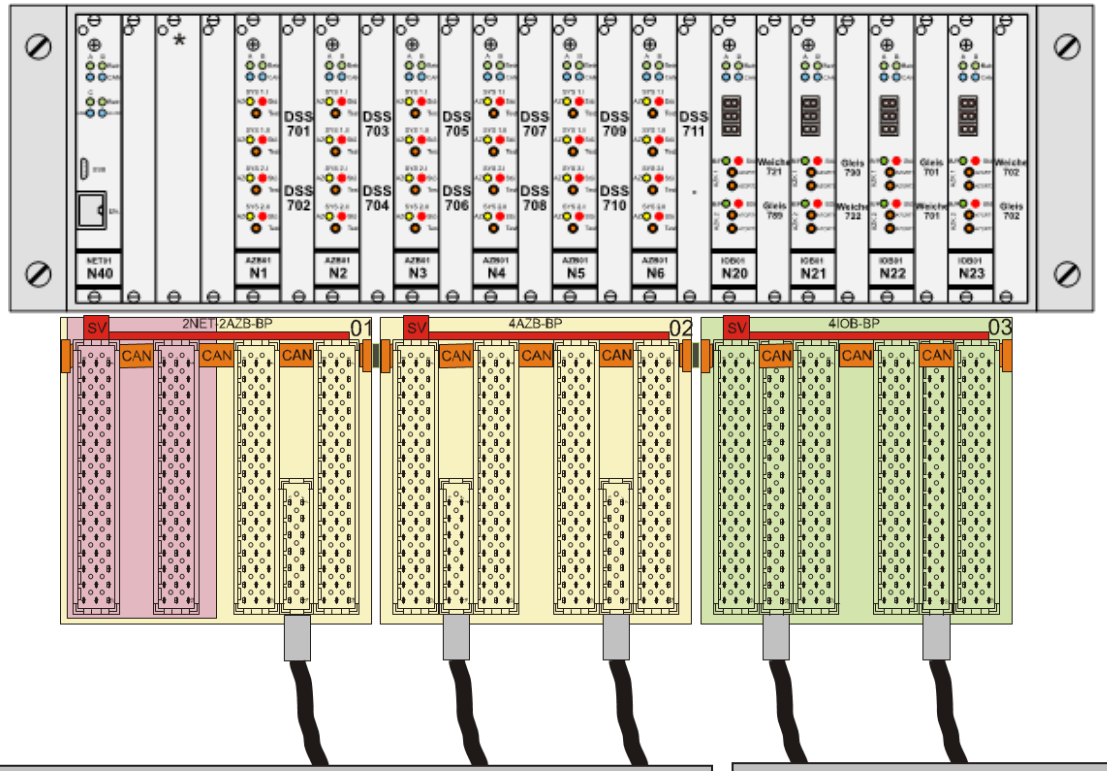


☑ Space saving hardware structure!

PINCLIRIO 400 (AZ 2.0) - Evaluation unit

A new system– What's new?

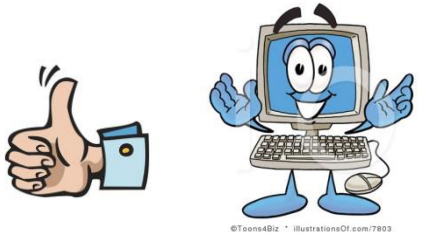
- **efficient**
  - only 3 (three) different modules
  - space saving hardware
  - **less wiring**
  - Project engineering via software engieering



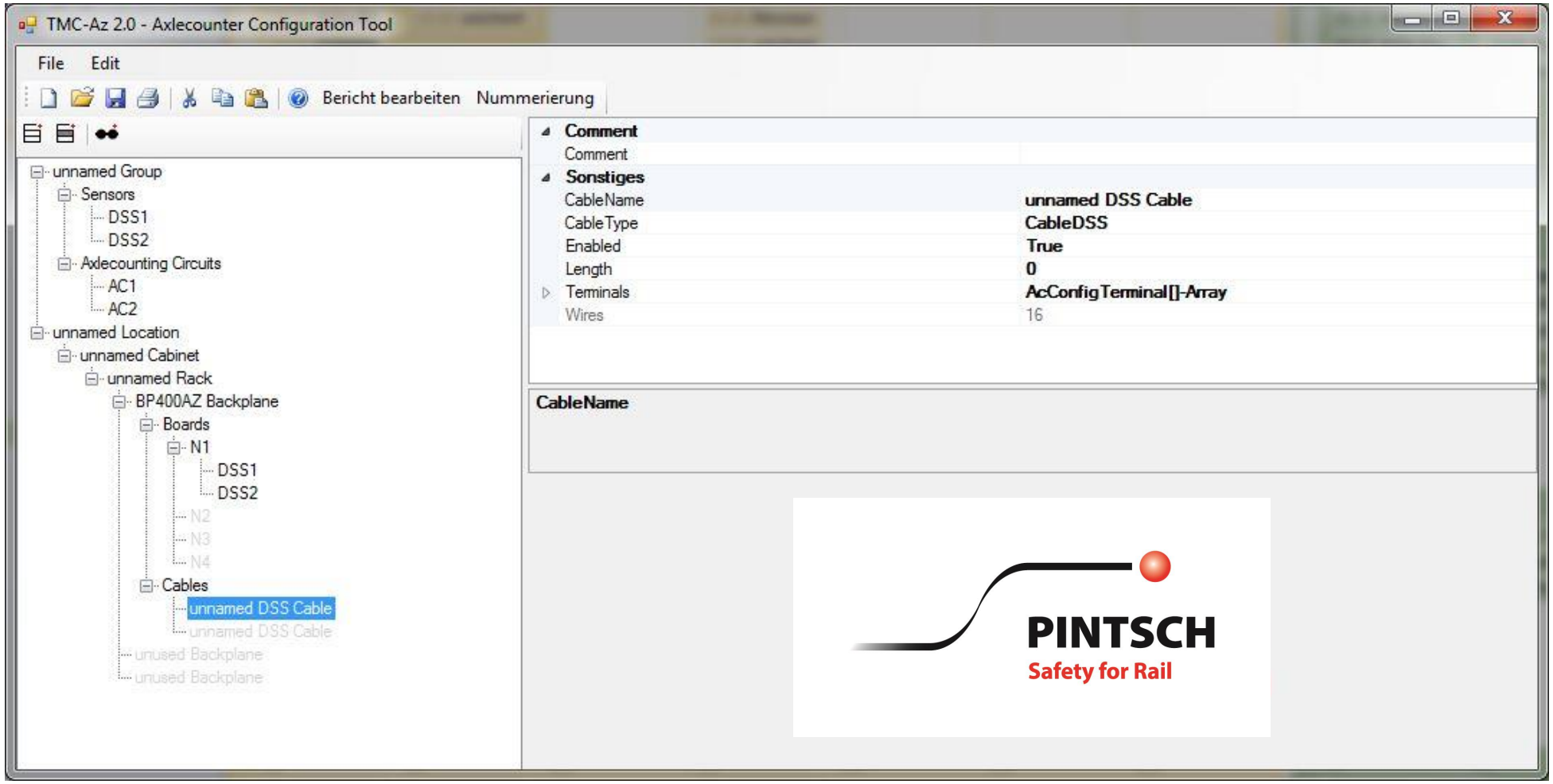
PINCLIRIO 400 (AZ 2.0) - Project engineering

A new system– What's new?

- **efficient**
  - only 3 (three) different modules
  - space saving hardware
  - less wiring
  - **Project engineering (PT2) via software engieering**
    - **Limited number of standard circuit drawings**
    - **Allocation in database/table format**
    - **PC based config tool (app)**



PC - based configuration tool



☑ efficient!

PINCLIRIO 400 (AZ 2.0) - Interfaces

A new system– What's ...?

- efficient
- **compatible**
- networking

Wheel Sensors		DSS250, DSS400RE
Relay Interfaces		Clear/Occupied, AC-Reset
Serial Data Interface		Ethernet, CAN, RS485

PINCLIRIO 400 (AZ 2.0)

A new system– What's new?

- efficient
- compatible
- **networking**

Extended Diagnosis

- Integrated event logging
- Diagnostic tools
- Messaging functions

Ethernet-Interface

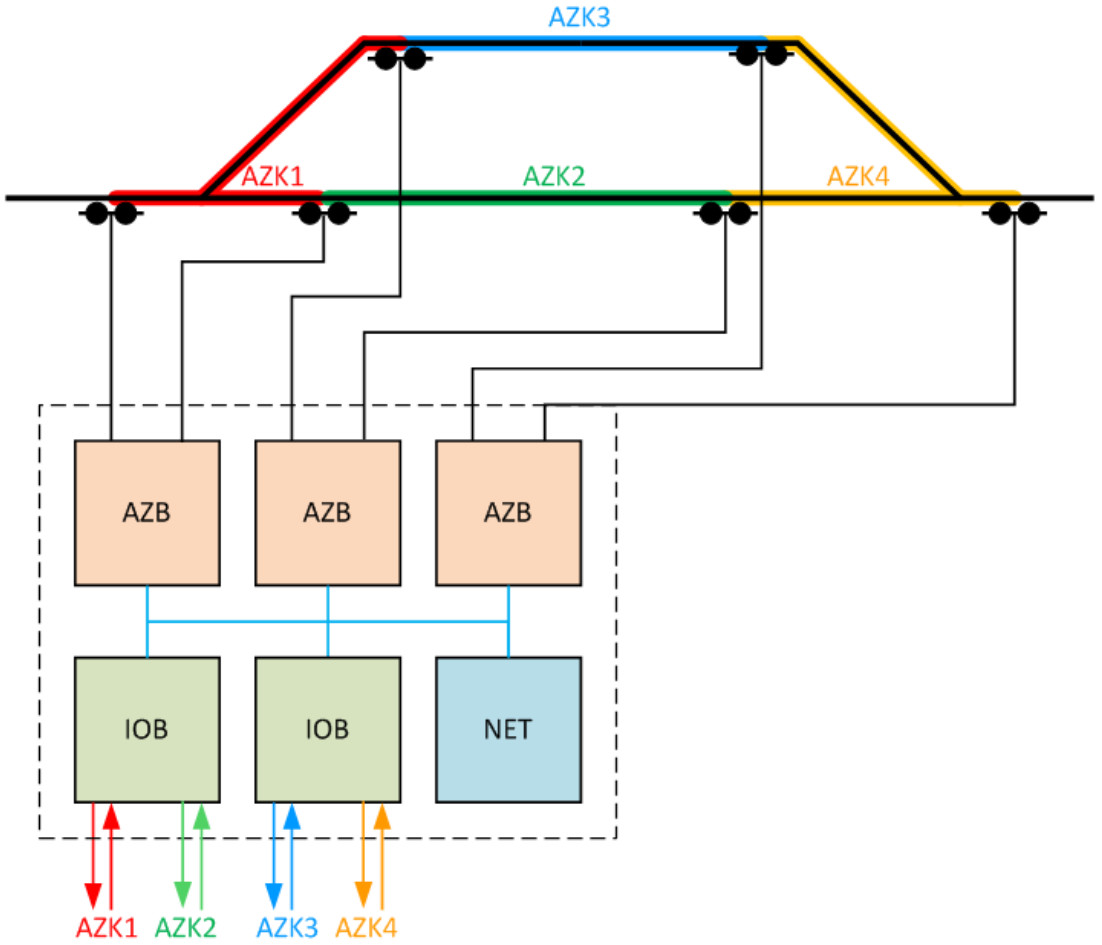
- For data transmission over long track sections
- Interface to signalling systems networks

PINCLIRIO 400 (AZ 2.0) – System applications

System applications (examples)

Vacancy detection of points and track sections using parallel (relay-) interface to signalling system

- Two wheel sensors DSS per module AZB01
- Two sections per module IOB01
- One module NET01 for system configuration and diagnostic/logging memory

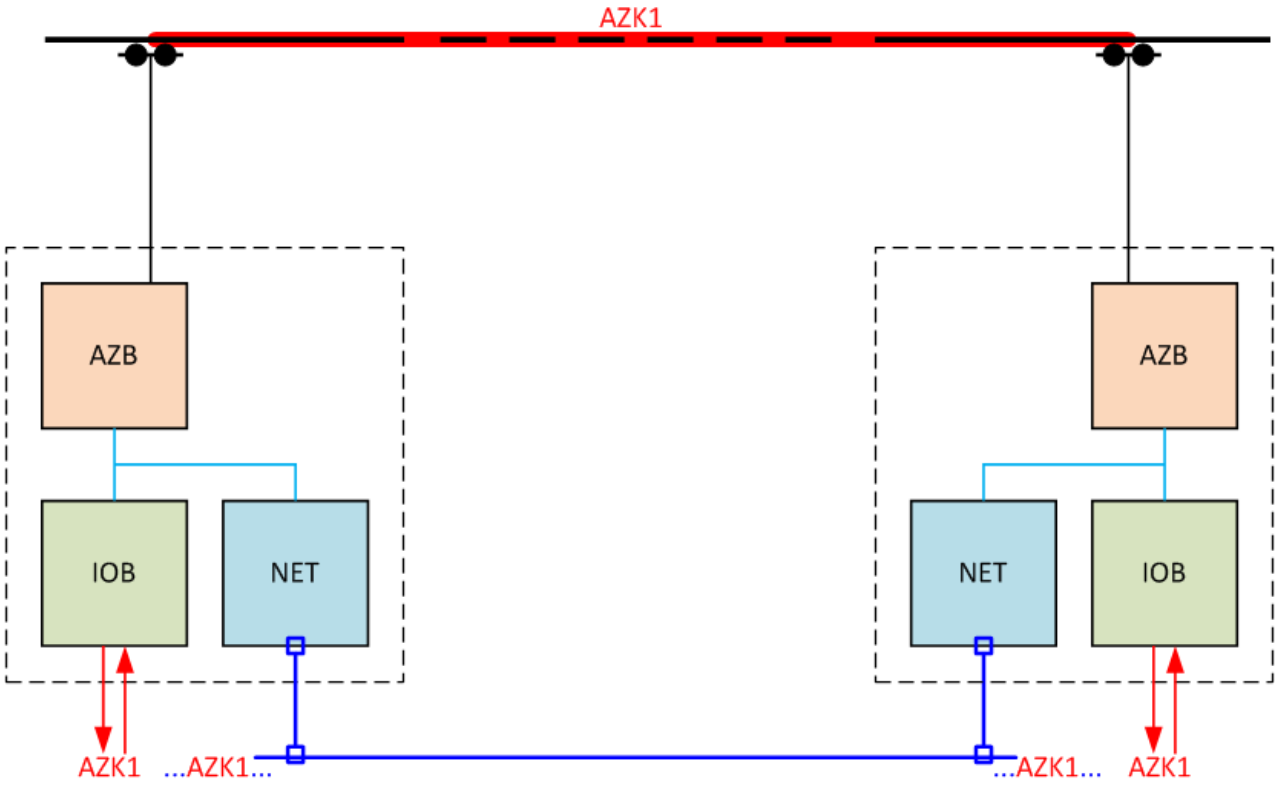


Configuration for station layout (example)

System applications (examples)

Vacancy detection of long track sections

- with parallel (relay-) interface to block system
- Up to two wheel sensors DSS per module AZB01
- Two modules IOB01 for clear/occupied/reset on both remote stations
- One module NET01 for remote data transmission, system configuration and diagnostic/logging memory

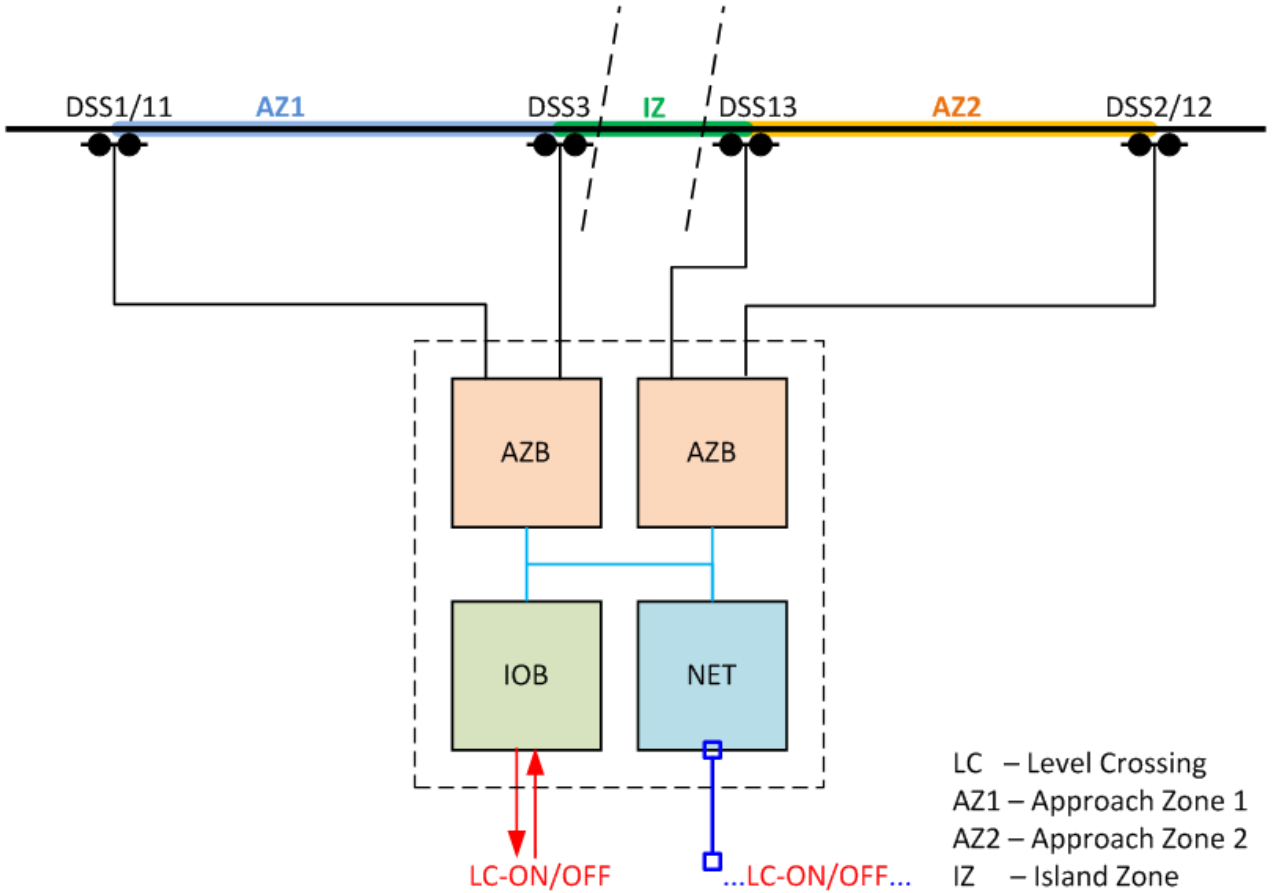


Configuration for long track vacancy detection (example)

System applications (examples)

Train detection for level crossing (LX) protection (example for one (single) track)

- Parallel (relay-) interface to the LX control system
- Two wheel sensors per module AZB01
- One module IOB01 for inteface „LX-On/OFF/reset“
- One module NET01 for system configuration and (optional) diagnostics and (optional) serial Ethernet-interface to LX control system

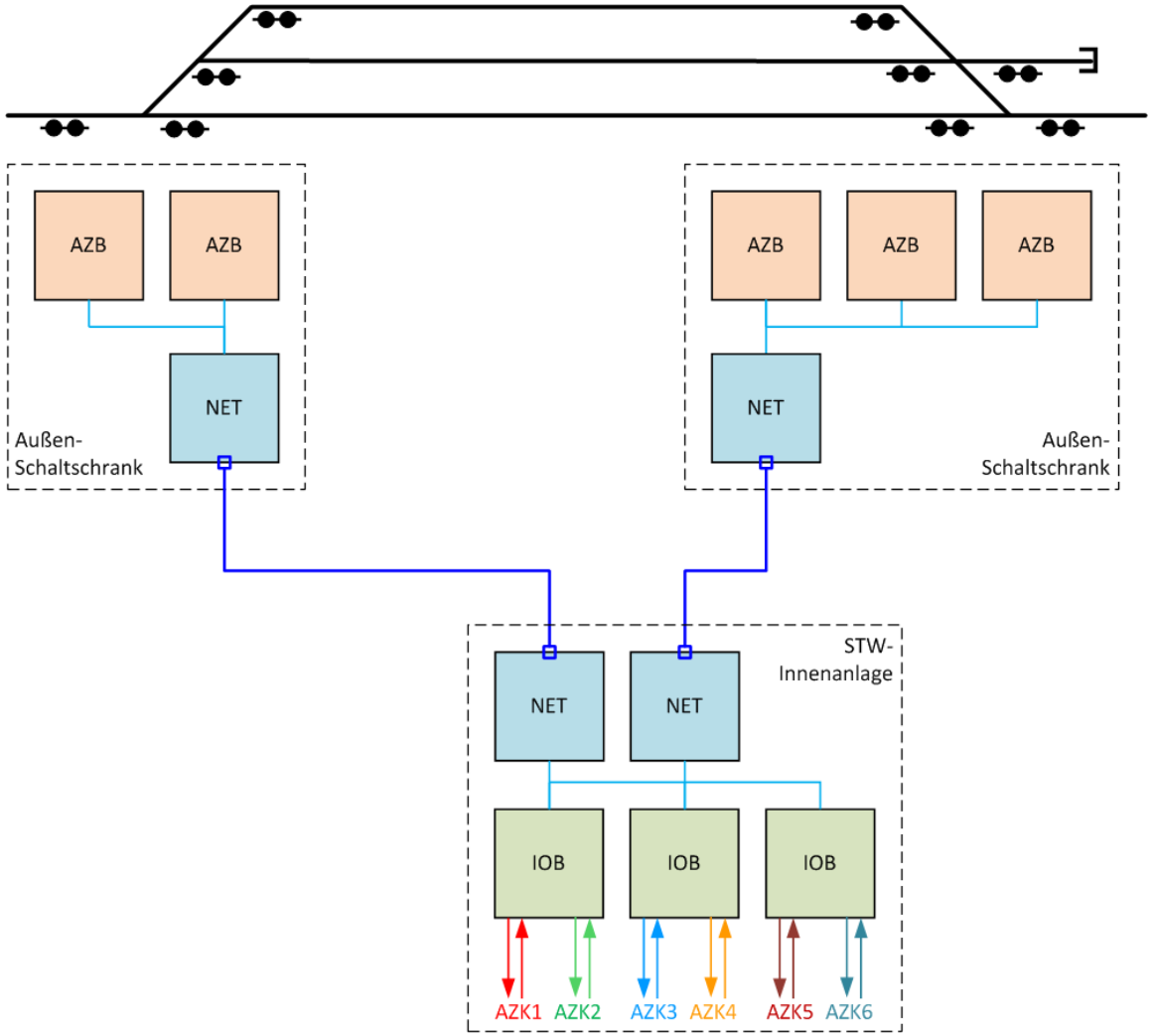


Configuration LX train detection

System applications (examples)

Vacancy detection of large areas with networking

- Modules AZB01 in decentralised location cases
- Modules IOB01 for parallel interface to the indoor equipment of a (e. g.) central relay interlocking
- Modules NET01 for networking the location cases with the indoor equipment of the central interlocking, system configuration and diagnostics
- Efficiant cabling using Ethernet e. g. via fibre optic cables (additional converters to be used)



Configuration (example) für vacancy detection of large areas

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Thank you for your attention!