



StationSWing ESA-11M+

Electronic interlocking for metro

- Failsafe and reliable system meeting SIL4 requirements according to CENELEC
- Station interlocking for metro and its depots
- 90 s headway
- Can be connected to centralized traffic control
- Modular system, easy operation
- Can be modified for any metro system world-wide
- High availability and reliability
- Low maintenance cost
- Possibility of integration to CBTC system



GENERAL DESCRIPTION

Station interlocking StationSWing ESA-11M+ (further ESA-11M+) was designed, in cooperation with company STARMON, to safeguard and control the operation in metro stations with track branching. ESA-11M+ includes circuits for control of signals at open line and adjacent stations.

ESA-11M+ allows 90 s headway.

ESA-11M+ is electronic interlocking with analogue interface to wayside elements. All logical functions of ESA-11M+ are executed by vital computers working in architecture 2oo2 with hot standby (TPC).

Object controllers with electronic or relay based switches are used for

transmission of power signal to signal lights (LED/bulbs), point machines, track circuits, auxiliary commanding posts, electromagnetic locks, axle counters and adjacent electronic or relay-based systems. Commanding level (ZPC) uses TrafficSWing JOP-M pursuant to individual requirements of customer.

BASIC TECHNICAL DESCRIPTION

Safety concept is based on redundant arrangement using diversified and defensive programming.

ESA-11M+ complies with CENELEC standards (primarily EN 50 126, EN 50 128, EN 50 129, EN 50 159).

Data transmission between components of ESA-11M+ is provided

via fail-safe communication networks. Data transmission between ESA-11M+ and superior dispatcher system is protected by fail-safe communication gateway.

Safety concept of transmission and power interface is based on elements with internal safety.

ESA 11M+ is also designed to safeguard operation in metro depots and can be supplemented with stationary part of automatic train protection system (e.g. TrainSwing LZA), if the depot is located in the vicinity of station.

ESA-11M+ can be supplemented with Graphical and Technological Layer (TrafficSWing GTN) for automatic traffic log.



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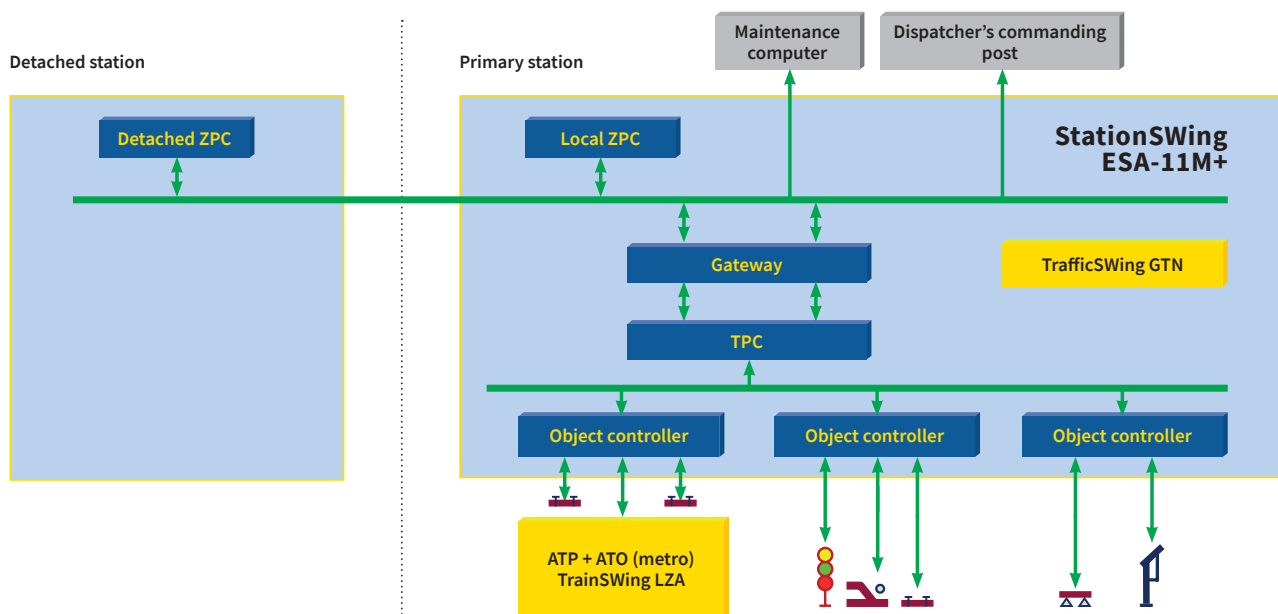
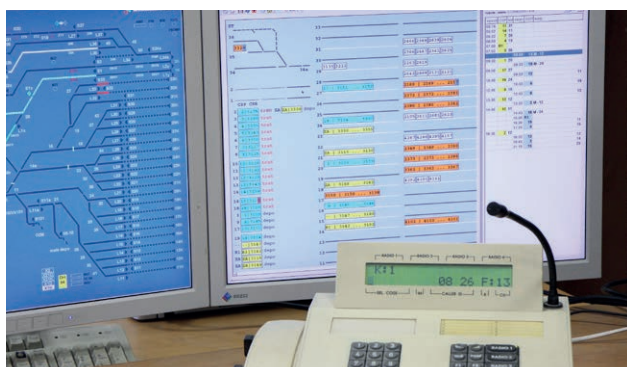


ESA 11M+ contains two diagnostic levels:

- State diagnostics for dispatchers and operating staff – indications and reports recorded in list of failures
- Diagnostics for maintenance staff – detailed information for troubleshooting

BASIC TECHNICAL PARAMETERS

Supply voltage	3 × 400 V / 50 Hz ± 10% (from 2 independent inputs) 24 V DC - 15% / + 20 %
Temperature range	-5 °C to +35 °C
Humidity	up to 80 %
Complies with EMC requirements according to	EN 50 121-4
Service life	more than 20 years



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