



TrainSWing LEA-1

ETCS L1 LEU – Lineside electronic unit

- ETCS LEU integrated in StationSWing ESA
- Redundant system working in 2oo2 architecture
- High safety and reliability
- Increased traffic flow
- Energy optimisation



GENERAL DESCRIPTION

TrainSWing LEA-1 (further LEA-1) is an integral part of station interlocking system StationSWing ESA 44 and serves for transmission of information (derived from station interlocking, line signalling or level crossing systems) via ETCS L1 switchable balises to trains equipped with OBU ETCS.

LEA-1 is preferably located in interlocking room (together with StationSWing ESA 44) and connected to object controller of StationSWing ESA (EIP panel) or in detached cabinet on the line.

BASIC TECHNICAL DESCRIPTION

LEA-1 consists of EIP and LCI panels and uses the following units:

- LEU-1 – control unit, providing selection of telegrams upon commands of StationSWing ESA control level
- LCI-1 – direct control of a balise (LEU C interface)
- LPS-1 – power supply unit of LCI panel
- LCU-1 – interconnection of internal and external communication bus of LCI panel

Fail-safe communication of LEA-1 provides data transmission between control part of station interlocking (StationSWing ESA 44) through EIP

panel to LEU-1 unit. LCI unit transmits data to balise through standard C-type interface according to UNISIG 036 (Eurobalise). LCI-1 uses C1-type interface for data transmission, C6-type interface for supplementary power supply of balise input and C4-type interface for identification of railway vehicle located above balise.

Power supply of LEA-1 consists of feeding of LEU-1 unit provided by EIP panel (LEA-1 is integral part of EIP panel) and feeding of LCI panel from 24V DC source or from preferable power supply source 3X 400V AC / 24V DC (located in cabinet on the line).

LCI-1 units are installed in LCI panel:

- in interlocking room - for balises installed in max. distance 2000 m from interlocking room
- on the line - for balises installed in max. distance 2000 m from the cabinet





Fail-safe remote data transmission (e.g. CommSWing UMS-300) is used for

communication between LEU-1 and detached LCI panel.

EIP and LCI panels are connected to DiagSWings LDS-3 diagnostic system.

BASIC TECHNICAL PARAMETERS

Supply voltage	DC 24V ± 20 %; AC 3 x 400V ± 10 %, 50 Hz (for location on open line)
Temperature range	climatic category T1 according to EN 50 125-3
Humidity	5 % to 100 %
EMC compliance	EN 50121-4, EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-6-4
Interface specification	UNISIG Subset 036
Number of controlled balises	8
Maximum distance of balise	aprox. 2000 m
Service life	minimum 25 years

