

# Train Protection system MIREL SHP

## Type **SHP**

illustrative picture

The MIREL SHP train protection represents the mobile part of Polish train protection. It has been designed for use on railway drive rail vehicles with track part for detection of signals detection on rail line. It doesn't serve for transfer of signals proper. An integral part of the SHP system is also the CUVAK engine driver vigilance supervision.

The MIREL SHP train protection provides for three fundamental functions: inspection, information and protection one. It is intended for supervision of driver vigilance, notification about approaching signal and in case of failed vigilance confirmation, or prompting for confirmation, it starts intervention in the sense of a safe stopping of the drive rail vehicle.

The MIREL SHP train protection consists of central unit, rail line electromagnet detectors. MIREL SHP can be operated on single- and double-cab drive rail vehicles of all traction types, as well as on guide waggons.

Power supply of the MIREL SHP train protection is provided from battery source of rail drive vehicle. Configuration of MIREL SHP device is chosen taking into account the battery source voltage. Operation and control of train protection is carried out solely from driver's cab, by means of components like vigilance pushbuttons and some control elements on locomotive control panel. No intervention inside of drive rail vehicle machine room is required when operating the MIREL SHP train protection.

The MIREL SHP train protection is an electronic system designed on base of state-of-the-art electronic components and has been conceived as a secure device. Secure operation is ensured by a twin processor unit, set of special supervisory circuits, double-channel processing of all safety-relevant functions. The employed assortment of parts meets demanding criteria of reliability and durability.

Use range of MIREL SHP train protection:

PL use in Poland, SHP infrastructure

### Modifications

Designation	Nominal supply voltage [VDC]	Central unit	Detector of electromagnets (antenna)	Software equipment	Range of use
SHP.1.201AL	24	SHPZJ.1.201AL	2x SHPA.1.A	01	PL
SHP.1.401AL	48	SHPZJ.1.401AL	2x SHPA.1.A	01	PL
SHP.1.201AP	24	SHPZJ.1.201AP	2x SHPA.1.A	01	PL
SHP.1.401AP	48	SHPZJ.1.401AP	2x SHPA.1.A	01	PL
SHP.1.201AU	24	SHPZJ.1.201AU	2x SHPA.1.A	01	PL
SHP.1.401AU	48	SHPZJ.1.401AU	2x SHPA.1.A	01	PL

### Optional accessories

Designation	Description
ETRM.1.A	Resistive replacement SHPA.1.A for the Central unit

### Specifications

Number	Version	Title
2298SHP	190123	Technical Conditions
2454SHP	180322	Operating Manual
2452SHP	180322	Maintenance manual, diagnostics