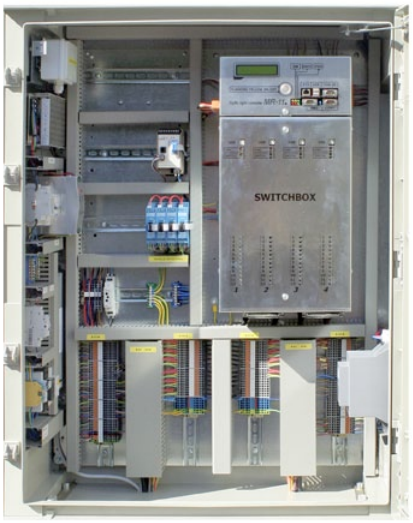
ROAD TELEMATICS

MR-11 – MICROPROCESSOR CONTROLLER

- **Suitable for application on all types of intersections**
- **Optimised traffic control**
- **High reliability**
- **Easy operation**
- **Variability and modular properties**
- **Universal communication interface OCIT**



General Description
Thanks to its modularity the microprocessor controller MR-11 is a traffic controller of the light signalling system (SSZ) designed to control the road traffic on all types of intersections including active preference of IZS and MHD (Urban Mass Transport) in the basic variant.

MR-11 is a controller whose construction design and variability fully respect demands and road traffic specifics and is based long-term experience of the Company with this type of technology.

Basic Technical Description
Controller consists of a control module and various switching boards of a modular design allowing a high variability of arrangements for the optimal control of specific traffic intersection. Components are installed in the plastic cabinet providing maximum protection against external impacts.

The controller can be upgraded by additional accessories which can be connected to the universal communication interface of the controller. Thanks to the modern component base the exacting safety requirements and high operational reliability are met.

Control software includes two parts:
- source program of the controller
- module with traffic-technical data

For storage of traffic data the 2 GB industrial memory card is used. This memory can store complete data from the traffic controller operation and detectors, and traffic statistics data.

Beyond the legislative requirements the microprocessor MR-11 is also certified for safety integrity level SIL3 according to standard CSN EN 61508 stipulating a uniform and consistent approach to evaluating the safety of electrical, electronic and programmable systems.

The communication compatibility is ensured by the universal interface OCIT (Open Communication Interface for Road Traffic Control Systems).

Traffic design is created in the environment of a standard trafficengineering software LISA +.

Controller Software allows operating in all current regimes, such as:
- fixed signal plans
- preference of MHD (Urban Mass Transport)
- dynamic programs
- free generation of signal plan
- manual control
- program flashing yellow
- night all red
- consistent and also dynamic coordination
- co-operation with Integrated Rescue System
- co-operation with superior traffic
- control centre

The controller is equipped with modern USB interface, RS 232 and Ethernet for service intervention, programming and fault diagnostics. It is also equipped with RS 485 interface for system communication and also the parallel interface with adjustable voltage for analogue transmission of communication with other types of controllers or expansion of the equipment from other manufacturers. Controller meets the require-

AŽD PRAHA

ment for versatile compatibility with commonly used equipment.

In the basic version the controller is already equipped with GSM module for remote management and with GPS module for obtaining precise time information.

In the co-ordinated group of surrounding controller of any technology the MR-11 controller can operate in a function of a group or subordinate controller.

Basic Technical Parameters	
Working environment	outdoor with normal shocks
Work in the temperature range of external environment between	–40 °C and +60 °C
Power supply	from public distribution network 230 V, 50 Hz
Cover rating	IP 54
Maximum number of signal groups	64
Maximum number of phases in each signal plan	16
Maximum number of power switches	288
Max. number of vehicle detectors	264
Max. number of pedestrian pushbuttons	118
Manual control	usually 6 phases, max. 20 phases
Max. number of programs (signal plans)	60
Signal supervisions	signal supervisions all installed
Support of LED signals	230 V, 42 V, 12 V
Safety certificate according to ČSN EN 61508	SIL3