

# MHU 110, MHU 111

## Control and Indicating Equipment

The analog addressable system FIREXA with its carrying components, the Control and Indicating Equipments (C.I.E.) MHU 110 and MHU 111, and their capacity of 256 (512) detectors, is intended mainly for fire protection of both medium-sized and large objects. To the C.I.E.'s the detectors are to connect in parallel into circular or simple lines to a two-wire loop, branched as required.



The analog addressable C.I.E. MHU 110 (MHU 111) is an equipment of the electric fire signalling that is intended to evaluate fire situations in the protected object. For operating the internal and external functions the C.I.E. makes use of the microprocessors Motorola - the first one is the general system microprocessor, the second one operates the lines with detectors.

The C.I.E. control is performed by means of push-buttons in four access levels (in accordance with EN 54-2), which forbids unauthorized personnel the interference with the system. The optical signalling elements are composed of LED diodes and the alphanumeric display with 4 x 40 characters. The acoustic signalling is internal.

The C.I.E. contains four (eight) loops of detection lines for the total number of 256 (512) addresses. The detection line loops are connected as 2 (4) circle lines, each of them can be divided in two simple lines.

At the same time interactive detectors of the FIREXA system as well as detectors and elements of the addressable system MHU 109 can be connected to the detection lines. The non-addressable detectors can be connected through the use of the MHY 409 Addressing Unit. Detectors of the FIREXA system have built-in insulators, if the project requires also the Isolator MHY 302 can be used in a detection line. Address (number) of interactive detectors is to set through the Preparation MHY 535, address of detectors and elements of the MHU 109 system is to set at the given device by the help of a address switch or jumpers.

Beside the elements at the detection lines there are some other inputs and outputs at the C.I.E.: the insulated serial line RS 485, the insulated serial line RS 232 for a printer and for the connection of a configuration computer, the uninsulated serial line RS 232 for the connection of modem and a configuration computer, optoinsulated inputs, open collectors, potential and potential free relays, special key buttons, eventually also some system events. By means of a program among the inputs and outputs there can be created logical structures along with a scheduling model depending on an input incident from single inputs. Concrete system configuration is performed by means of a special PC software program.

To enlarge the C.I.E. function it is possible to eke out the C.I.E. with input-output elements so that communication with the MHY 912 Fire Brigade Panel is enabled.

For its use in the Electric Fire Detection and Alarm System the C.I.E. is liable to the compliance examination according to law No. 22/1997 Sb., in wording law No. 71/2000 Sb. and the relevant orders of the government. The C.I.E. complies with the standard specifications ČSN 34 2710, ČSN 73 0875, ČSN EN 54-2, ČSN EN 54-4 and prEN 54-13.

### Technical specifications

	MHU 110	MHU 111
Power supply	230+10%-15% V / 50 Hz ± 5%	
Input power		
- resting state	max. 35 VA	75 VA
- at alarm	max. 75 VA	240 VA
Standby accumulator supply		
inside the C.I.E.	12 V / 17 Ah	2 x 12 V / 28Ah
outside the C.I.E.	12 V / 28 Ah	2 x 12 V / 65 Ah
Detector connection		
Line loop number	4	8

Line connection	2 circle lines, divisible in simple lines	4 circle lines, divisible in simple lines
Line wiring	two-wired, branchable, unshielded	
Address number: C.I.E. Circle line	256 128	512 128
Types of attachable detectors		
Addressable interactive	MHG 161, MHG 261, MHG 361, MHG 362, MHG 861, MHG 283, MHG 383, MHG 661	
Addressable	MHG 141, MHG 241, MHG 243, MHG 341, MHG 142, MHG 242, MHA 141, MHA 143	
Non-addressable	through the addressing unit MHY 409	
Types of attachable elements	MHY 909, MHY 910, MHG 941, MHY 920, MHY 921	
Line wiring resistance	max. 100W	
Inputs and outputs		
Inputs optoinsulated	6 × 5 ÷ 30 V	
Outputs supervised relay potential open collector	2 × 12+1.2-1.5 V, 0.5 A	2 × 24+2,4-3,0 V, 0.5 A 6 × max. 30 V, 0.15 A
Outputs not supervised relay potential free	2 × relays - change-over contact max. 42 V / 1A, 15W, 30 VA	
Communication channels		
RS 485 circle line attachable equipment	max. 1km system upgrade computer, MHS 811 Repeater Panel MHY 907 and MHY 908 Relay Boxes	
RS 232 insulated line attachable equipment	printer, configuration PC	
RS 232 non-insulated line attachable equipment	configuration PC, modem	
External equipment power supply (additional ss-line)		
Voltage	+12+1,2-1,5 V	+24+2,4-3,0 V
External current if inactive working from the net	max. 600 mA	max. 1.5 A
working from accumulator (24h)	17 Ah max. 300 mA 28 Ah max. 600 mA	28 Ah max. 500 mA 65 Ah max. 1,5 A
External current at alarm	max. 2,5 A	max. 5 A
Protection according to ČSN EN 60529	IP 30	
Safety class equipment according to ČSN EN 60950	I	
Radioscreening degree according to ČSN EN 55 022	B-class equipment	
Dimensions	(320 × 420 × 88) mm	(430 × 450 × 135) mm
Weight (without standby supply)	8 kg	14 kg

#### Working conditions

The equipment is intended for the interior of objects without occurrence of aggressive substances, and for places where its protection and climatic immunity conform, and where sudden temperature changes leading to dew and ice accretion don't occur.

Working temperature range	-5°C ÷ +40°C
Relative humidity	≤ 75%, 10 days in a year 95% on other days occasionally 85%
Atmospheric pressure	(86 ÷ 106) kPa
Mounting position	vertical on walls without vibrations

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