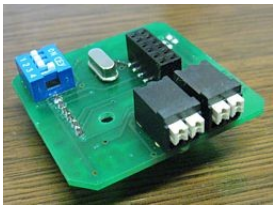
Micro Control Unit - Communication Interface µCU-M.485



The µCU-M.485 communication interface is designed as small interface for large system equipped with up to 15 µCU. The application µCU-M.485 could be useful in chain houses and bigger appartments buildings. The interface of µCU-M.485 is used as remote fire and power fault alarm of the whole system. The module is installed as an option of µCU panel and is simply placed between terminal board and CPU board. The big advantage of the module is that there aren't needed any other wires except 2 communications wires. Communication is realized by standard RS485, which is very resistant to noice and interferences.

1) FUNCTIONAL DESCRIPTION

Each µCU-M.485 includes RS485 module driver and CPU with build-in communication protocol.When RS485 driver receives some message, the CPU of µCU-M.485 wakes-up and saves the message into receiving buffer. Then µCU-M.485 sets corresponding outputs to µCU, which indicates individual states.

In case of power fault alarm the µCU indicates fault, or in case of fire alarm the local µCU indicates alarm with RED LED and detector loop starts beeping. The µCU in remote alarm indicates the Alarm state only by detector loop beeping.

The user can press any button on µCU to switch off the remote fire or fault alarm indication. To switch off local fire alarm indication has to be used button on µCU which started the alarm message.

The user reset of the fault alarm is applied only locally and fire alarm reset will be spread to whole network after user action.

All µCU-M.485 units include a default setting of 2 minutes delay before transmitting of the Fire Alarm message and include also automatic switch, which after 10 min will switch off remote fire alarm.

Each µCU-M.485 has to have set an address. The address setting is done through small DIP switches. µCU-M.485 read the address set on the DIP switch after power on and remember it. Use the table in section 5) ADDRESS SETTING to set an address. Each address have to be used only once for the same network.

2) INSTALATION

µCU-C is placed between terminal PCB board and CPU PCB board of µCU. First remove screws at the terminal PCB of µCU. Pull out the terminal PCB board and place instead the µCU-M.485 board, fix µCU-M.485 board to the µCU CPU board by plastic distance screw. The terminal board of µCU push into µCU-M.485 and fix it by the screws.

The network of µCU-M.485 should be installed according part 6) APPLICATION DIAGRAM. The RS485 network is realized by one wire pair A and B. A(B) wire of the one µCU-M.485 unit is simply connected to the A(B) of the next µCU-M.485 unit. The recommended cable type for RS485 connection is AF CEI 20-22 IEC 332 or VD-04 shielded cable. Connection of the µCU control unit and µPU power unit stays unchanged.

3) SIGNALIZATION AND OUTPUTS ON µCU

µCU	**Signaltype**	**Reasons**
Fault LED	Yellow OFF Yellow ON	• Fault condition in system / remote Power Fault alarm (to switch it off can be used SIREN button on µCU unit – only for remote Power Fault alarm, otherwise the indication stays unchanged)
LOOP SIREN	SIREN OFF SIREN ON	• The µCU recognized fire alarm condition in the loop – it is indicated by µCU (to switch it off can be used SIREN button on µCU unit) • Remote fire alarm - it is not indicated by µCU, only by loop siren (to switch it off can be used SIREN button on µCU unit)

4) BUTTON CONTROL

SIGNALIZATION	**ACTION**	**OUTPUT**
REMOTE ALARM	<<**µCU Siren button**>> 1x PUSH **10 min. delay**	• Remote ALARM is OFF in whole loop Except µCU in local fire alarm • Remote ALARM is OFF
FAULT	**<<Loop Fault Fix in µCU or µPU >>** <<**µCU Siren button**>> 1x PUSH	• Automatic Reset of the Fault • Remote POWER FAULT is OFF

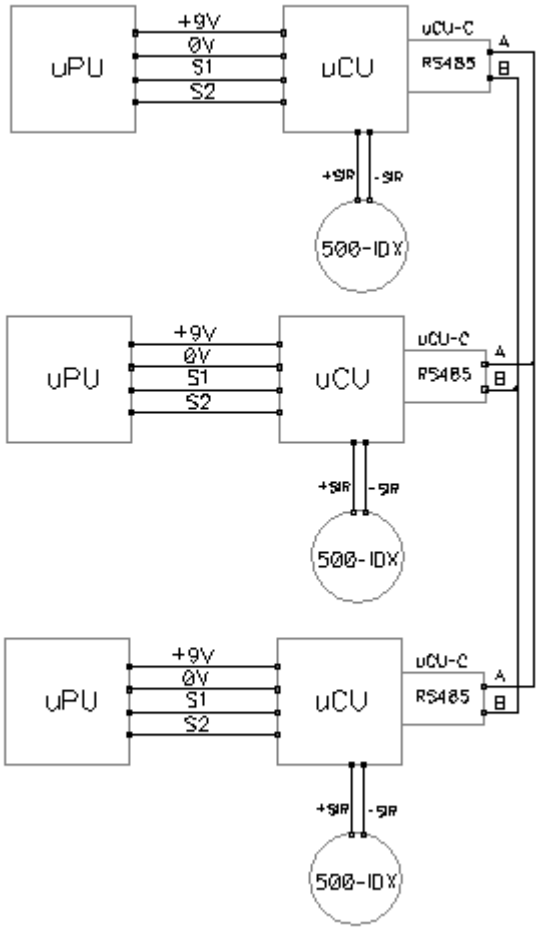
5) ADDRESS SETTING

Please do not use address 0000, it is used for production processes.

DEC	BIN	DIP SW			
		1	2	3	4
0	0000				
1	0001	■			
2	0010		■		
3	0011	■	■		
4	0100			■	
5	0101	■		■	
6	0110		■	■	
7	0111	■	■	■	
8	1000				■

DEC	BIN	DIP SW			
		1	2	3	4
9	1001	■			■
10	1010		■		■
11	1011	■	■		■
12	1100			■	■
13	1101	■		■	■
14	1110		■	■	■
15	1111	■	■	■	■

6)TYPICAL APPLICATION DIAGRAM



7) PARAMETERS:

Type:	Micro Control Unit Communication Module – µCU-M.485

POWER SUPPLY

Power supply:	9.5 V (+/– 5%)
Current consumption:	< 2 mA

RS485 COMMUNICATION

Data rate:	4800 bd/s
Logical high:	A – B ≥ 0.2V
Logical low:	A – B ≤ -0.2V

Dimensions:	L=44mm, W=44mm
Mounting:	Between CPU and terminal PCB of µCU as an option
Pollution level:	2
Rated impulse voltage:	4kV
Temperature:	T0 °C to +T40 °C
Isolation temperature:	98°C for box / 115°C for PCB
Humidity:	max, 95% RH without a condensation
Connection type:	Cable / Shielded cable (low power side)
Terminal size for cable:	0.75 mm2