

Fig.1 The URCA6 module.

### APPLICATION

The extension module allowing attach six digital inputs to one analog input of the controller.

### DESCRIPTION

The URCA6 module is digital to analog converter, changing the logical combination of six digital inputs on an analog voltage signal 0 - 9,45V. Connecting discrete inputs ( $d_1 \div d_6$ ) to the ground ( $\perp$ ) voltage output is generated by the formula:

$$U_{OUT} = (0,15d_1 + 0,3d_2 + 0,6d_3 + 1,2d_4 + 2,4d_5 + 4,8d_6) [V]$$

where:  $d_{1...6} = 0$  for opened terminals  
 $d_{1...6} = 1$  for closed terminals

LED diodes indicate digital inputs states.

### TECHNICAL DATA

Power supply	24 V AC $\pm$ 15%
Current consumption for $R_L = 10k\Omega$	72mA
Input current for $R_{IN} = 0\Omega$	0,8mA
Max. resistance for input terminals	10k $\Omega$
Max. output current	15mA
Protection class of the case	IP-40
Protection class of terminals	IP-20
Ambient temperature range	-10...+55°C
Diameter of terminals	2,5 mm <sup>2</sup>
Mounting	DIN-35 or DIN-32 rail
Dimensions (L x W x H)	96mm x 70,5mm x 42mm
Weight	125 g

# URCA6

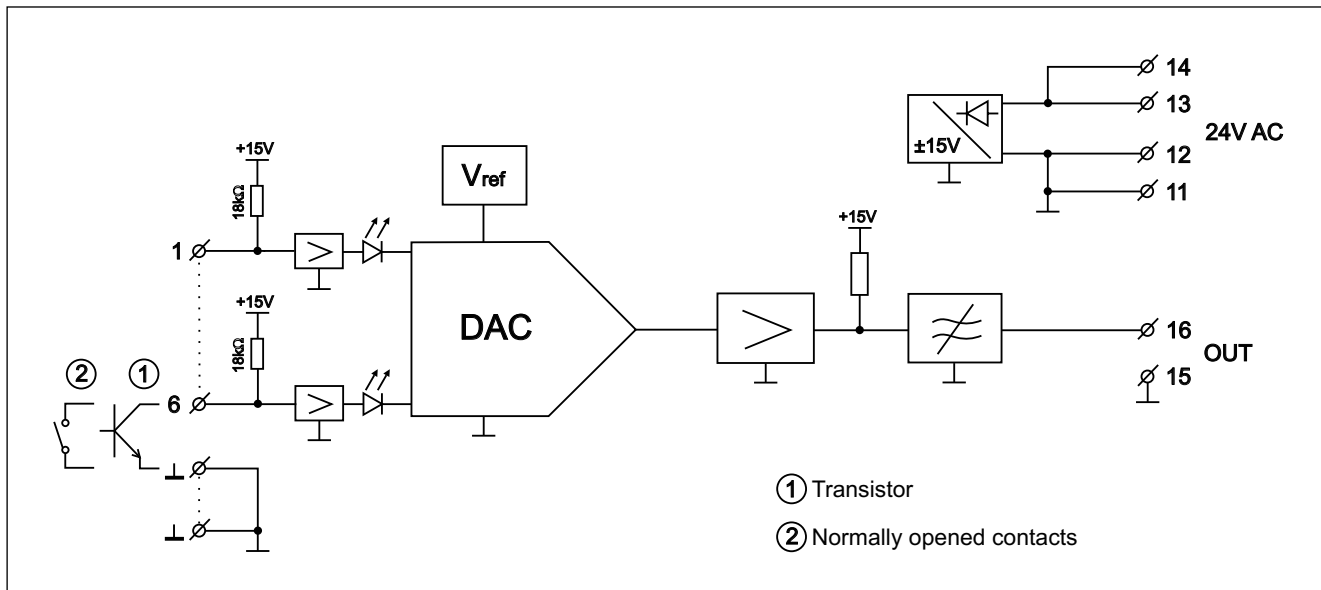


Fig.2 Conections of the URCA6.

## TABLE OF STATES

State	Digital inputs						U <sub>OUT</sub> [V DC]	State	Digital inputs						U <sub>OUT</sub> [V DC]
	d <sub>1</sub>	d <sub>2</sub>	d <sub>3</sub>	d <sub>4</sub>	d <sub>5</sub>	d <sub>6</sub>			d <sub>1</sub>	d <sub>2</sub>	d <sub>3</sub>	d <sub>4</sub>	d <sub>5</sub>	d <sub>6</sub>	
0	0	0	0	0	0	0	0,00	32	0	0	0	0	0	1	4,80
1	1	0	0	0	0	0	0,15	33	1	0	0	0	0	1	4,95
2	0	1	0	0	0	0	0,30	34	0	1	0	0	0	1	5,10
3	1	1	0	0	0	0	0,45	35	1	1	0	0	0	1	5,25
4	0	0	1	0	0	0	0,60	36	0	0	1	0	0	1	5,40
5	1	0	1	0	0	0	0,75	37	1	0	1	0	0	1	5,55
6	0	1	1	0	0	0	0,90	38	0	1	1	0	0	1	5,70
7	1	1	1	0	0	0	1,05	39	1	1	1	0	0	1	5,85
8	0	0	0	1	0	0	1,20	40	0	0	0	1	0	1	6,00
9	1	0	0	1	0	0	1,35	41	1	0	0	1	0	1	6,15
10	0	1	0	1	0	0	1,50	42	0	1	0	1	0	1	6,30
11	1	1	0	1	0	0	1,65	43	1	1	0	1	0	1	6,45
12	0	0	1	1	0	0	1,80	44	0	0	1	1	0	1	6,60
13	1	0	1	1	0	0	1,95	45	1	0	1	1	0	1	6,75
14	0	1	1	1	0	0	2,10	46	0	1	1	1	0	1	6,90
15	1	1	1	1	0	0	2,25	47	1	1	1	1	0	1	7,05
16	0	0	0	0	1	0	2,40	48	0	0	0	0	1	1	7,20
17	1	0	0	0	1	0	2,55	49	1	0	0	0	1	1	7,35
18	0	1	0	0	1	0	2,70	50	0	1	0	0	1	1	7,50
19	1	1	0	0	1	0	2,85	51	1	1	0	0	1	1	7,65
20	0	0	1	0	1	0	3,00	52	0	0	1	0	1	1	7,80
21	1	0	1	0	1	0	3,15	53	1	0	1	0	1	1	7,95
22	0	1	1	0	1	0	3,30	54	0	1	1	0	1	1	8,10
23	1	1	1	0	1	0	3,45	55	1	1	1	0	1	1	8,25
24	0	0	0	1	1	0	3,60	56	0	0	0	1	1	1	8,40
25	1	0	0	1	1	0	3,75	57	1	0	0	1	1	1	8,55
26	0	1	0	1	1	0	3,90	58	0	1	0	1	1	1	8,70
27	1	1	0	1	1	0	4,05	59	1	1	0	1	1	1	8,85
28	0	0	1	1	1	0	4,20	60	0	0	1	1	1	1	9,00
29	1	0	1	1	1	0	4,35	61	1	0	1	1	1	1	9,15
30	0	1	1	1	1	0	4,50	62	0	1	1	1	1	1	9,30
31	1	1	1	1	1	0	4,65	63	1	1	1	1	1	1	9,45

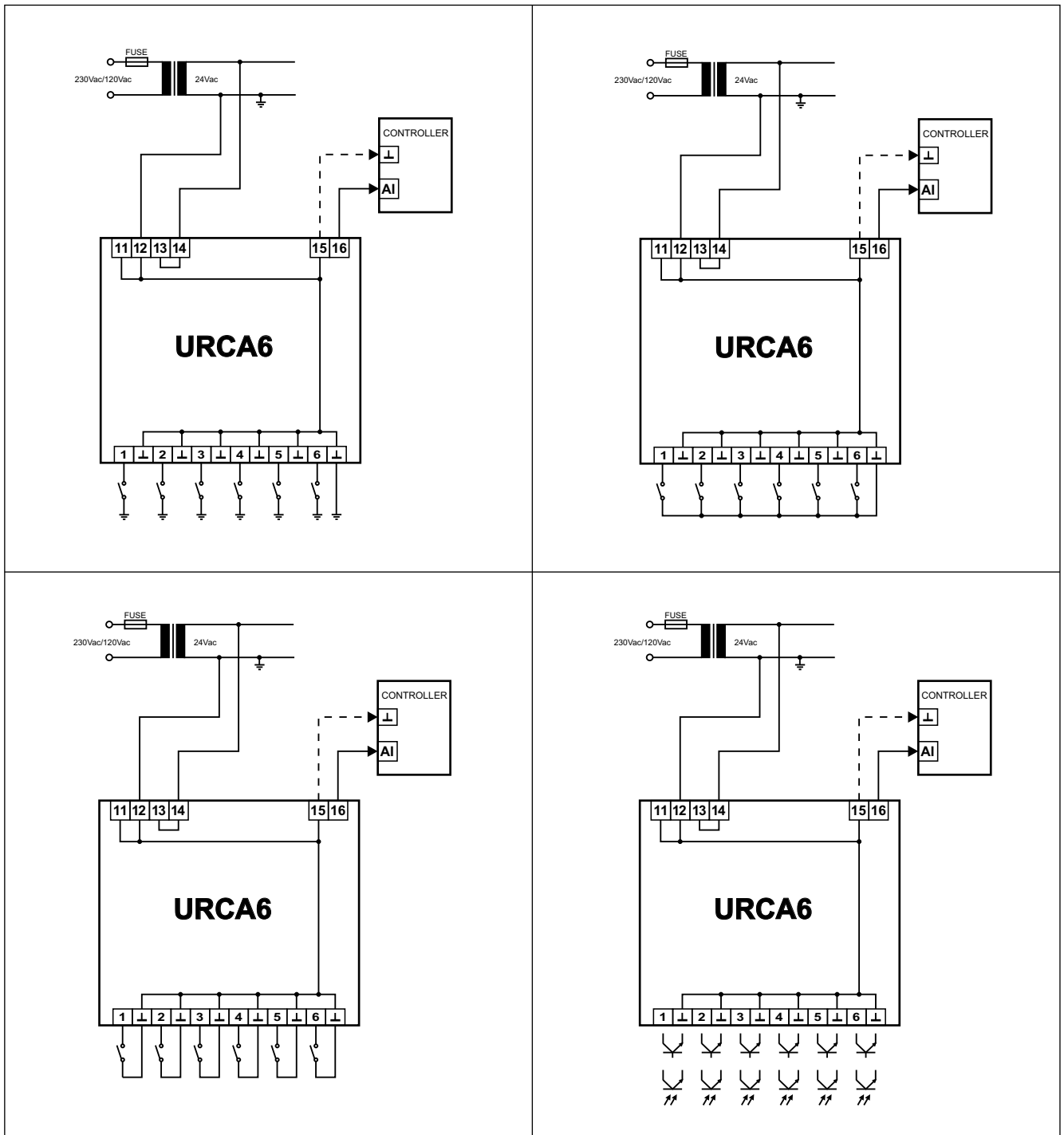


Fig.3 Example ways of connecting the URCA6.

Terminals 11 and 13 are supporting, for example, to provide power to other modules. Connection the terminal 15 to the ground is recommended.

August 2004, modified: May 2008