MiniACE 48 - LED Controller, Users Guide

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Congratulations on Your Purchase!

Your new MiniACE LED controller will allow you to control up to 36 x 1W or 3W LEDs and create astonishing light effects!!!

Made in Israel

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<u>System components</u>

1. 3 rotary switches
2. 2 LED indicator
3. DMX-512 input and output RJ-45 connectors
4. DMX-512 addressing 1-99 channels (optionally can also come in other ranges upon customer request)
5. Operating voltage 48 VDC
6. Operating Modes:

   a. DMX-512 control - control of 3 channels (1 RGB output).
   b. Three pre-programmed chasers with adjustable fade and delay.
   c. RGB mode - allows to manually setup the outputs a user level
   d. HUE mode – a unique method to select desirable color by setting the Hue and Luminance of the color.
   e. Random color generator – changes the colors randomly with selectable fade and delay
   f. Three chasers that can be programmed via the DICE panel with adjustable fade and delay.
   g. Master Mode: Transmits at the DMX line all current channels levels

MINI ACE Quick Manual

Notes	Rotary Switch Positions			Output Values		
	Mode (M=0~9)	Wait (W=0~9)	Speed (S=0~9)	Ch1(Red)	Ch2(Green)	Ch3(Blue)
DMX Mode	0	W=DMX Address Tens	S=DMX Address Units	DMX Data starting from Address: 10xW+S		
Internal PRG1	1	Wait Time	Fade Time			
Internal PRG2	2	Wait Time	Fade Time			
Internal PRG3	3	Wait Time	Fade Time			
RGB Mode	4	0	S sets the output in steps of 11%	0~99%	0	0
		1		0	0~99%	0
		2		0~99%	0~99%	0
		3		0	0	0~99%
		4		0~99%	0	0~99%
		5		0	0~99%	0~99%
		6		0~99%	0~99%	0~99%
HUE Mode	5	HUE 0-100%	LUM 0-100%			
Random Colors	6	Wait Time	Fade Time			
DICE PRG1	7	Wait Time	Fade Time			
DICE PRG2	8	Wait Time	Fade Time			
DICE PRG3	9	Wait Time	Fade Time			

- It is possible to Copy the chasers from DICE to the MiniACE: To do so, you will need a DICE or DICE panel with programmed chasers.
  Put the DICE in MASTER-MANUAL Mode and set 0-0-0 on the rotary switches of the MiniACE. Connect The MiniACE to DICE via DMX cable and wait for about 10 seconds. Blinking of both MiniACE's LEDs will symbolize successful copy.

Master-Slave Mode

It is possible to work in Master Slave mode. To do so, connect the desired number of MiniACEs using the RJ-11 DMX cable. To set the slave mode, just move the rotary switches to the 0 – 0 - 1 position (DMX mode with address 1).

While working at any mode other than DMX, MiniACE operates as a master and transmits the values of its own outputs via DMX output, starting from the address 1.

Outdoor installations: For fixtures installed outdoors, the length of exposed wiring shall not exceed 42.5m (140ft).

Load configurations   -   MiniACE 48
48VDC: 18 to 36 LEDs (7 to 12 per channel)

Allowed loads for 3rd party LED fixtures

MiniACE 48 350mA

AWG gauge COUPER	Diameter mm	Ohms per km	Maximum amps for power transmission	Voltage Drop (100m,350mA)	max. LEDs 1W 50m	max. LEDs 1W 100m	max. LEDs 1W 150m	max. LEDs 1W 200m	max. LEDs 1W 250m	max. LEDs 1W 300m	max. LEDs 1W 400m	max. LEDs 1W 500m
26	0.40386	134	0.36(2.2)	4.69	12	10	9	8	7	5	3	X
24	0.51054	85	0.57(3.5)	2.975	12	12	11	10	9	8	6	5
22(0.34mm)	0.64516	53	0.92(7)	1.855	12	12	12	11	11	10	9	8
18(0.75mm)	1.02362	21	2.3(16)	0.735	12	12	12	12	12	12	11	11
15(1.5mm)	1.45034	11	4.7(28)	0.385	12	12	12	12	12	12	12	12

MiniACE 48 700mA

AWG gauge COUPER	Diameter mm	Ohms per km	Maximum amps for power transmission	Voltage Drop (100m,700mA)	max. LEDs 3W 25m	max. LEDs 3W 50m	max. LEDs 3W 100m	max. LEDs 3W 150m	max. LEDs 3W 200m	max. LEDs 3W 300m	max. LEDs 3W 400m	max. LEDs 3W 500m
26	0.40386	134	0.36(2.2)	9.38	12	10	8	5	3	X	X	X
24	0.51054	85	0.57(3.5)	5.95	12	11	10	8	7	3	X	X
22(0.34mm)	0.64516	53	0.92(7)	3.71	12	12	11	10	9	7	5	3
18(0.75mm)	1.02362	21	2.3(16)	1.47	12	12	12	11	11	11	10	10
15(1.5mm)	1.45034	11	4.7(28)	0.77	12	12	12	12	11	11	10	9

MiniACE 48 - Technical Data

No.	Specification	MiniACE 48 350mA	MiniACE 48 700mA
1	Power supply	Class 2 power supply (external)	Class 2 power supply (external)
2	Power input	48VDC	48VDC
3	Current consumption	Max. 1.5A	Max. 1.5A
4	Power consumption	Up to 44W	Up to 90W
5	Driving current	Max. 350mA per channel	Max. 700mA per channel
6	Output voltage	Max. 48V	Max. 48V
7	Output channels	3 channels	3 channels
8	Fixture output	1 output (7-12 x 1W LEDs per channel, up to 36 x 1W LEDs total)	1 output (7-12 x 3W or K2 LEDs per channel, up to 36 x 3W or K2 LEDs total)
9	DMX working mode	R/G/B-3-channels	R/G/B-3-channels
10	DMX signal input	RJ-11 female	RJ-11 female
11	DMX signal output	RJ-11 female	RJ-11 female
12	Color grades	256 level (each color) total 16,770,000 colors	256 level (each color) total 16,770,000 colors
13	Heat dissipation	15% of power output	15% of power output
14	Environment	IP40	IP40
15	Operating temperature	range -18℃ ~ +40℃ (0℉ ~ +104℉)	range -18℃ ~ +40℃ (0℉ ~ +104℉)
16	Storage Temperature	range -18℃ ~ +40℃ (0℉ ~ + 104℉)	range -18℃ ~ +40℃ (0℉ ~ +104℉)
17	Humidity	20% to 70%	20% to 70%

Note: MiniACE is intended for maximum operating ambient of 40℃.

Note: Use power supply adapter having rated input 100-240V, 50/60Hz, 2A for loads incorporating 18 to 36 LEDs, maximum operating ambient at least 40°C, marked "LPS" or "Class 2".

Note: For North America the power supply shall be UL Listed in accordance with UL/CSA 60950-1 standard. For Europe the power supply shall be certified in accordance with EN 60950-1 standard.

Note: Select power supply cord for the AC/DC adapter as follows:

Note: For North American power connection, select a power supply cord that is UL Listed and CSA Certified 3 - conductor (for AC/DC adapter with earth connection) or 2 - conductor (for AC/DC adapter without earth connection), 18 AWG, terminated in a molded on plug cap rated 125 V, 6 A, with a minimum length of 1.5m but no longer than 4.5m. For European connection, select a certified power supply cord that is internationally harmonized and marked "<HAR>", 3 - conductor (for AC/DC adapter with earth connection) or 2 - conductor (for AC/DC adapter without earth connection), 0,75 mm2 minimum wire, rated 300 V, with a PVC insulated jacket. The cord must have a molded on plug cap rated 250 V, min. 3A.
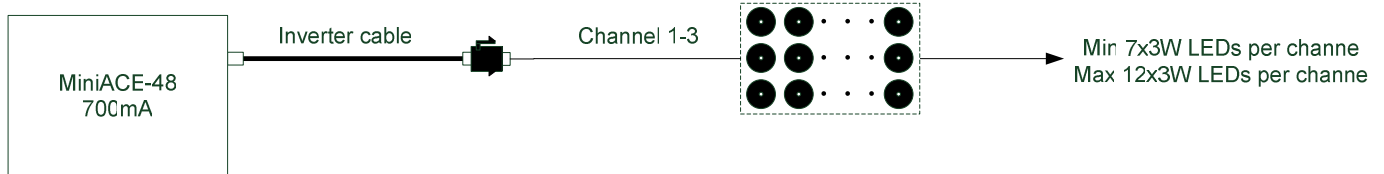
Connection scheme

MiniACE 48 350mA Connection Diagram
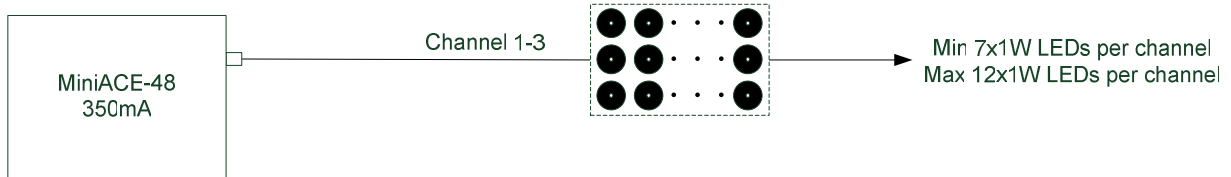

MiniACE 48 700mA Connection Diagram

Note: Fixture connection to MegaACE 48 700mA is made via the inverting cable (included in package)
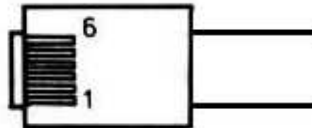
RJ-45 Pinout(LED Output):

Pin	Wire Color	350mA LED polarity	700mA LED polarity
1	W/ Green	R(-)	R(+)
2	Green	R(+)	R(-)
3	W/Orange		
4	Blue	G(+)	G(-)
5	W/Blue	G(-)	G(+)
6	Orange		
7	W/Brown	B(-)	B(+)
8	Brown	B(+)	B(-)

RJ-11 Pinout(DMX512 In/Out):

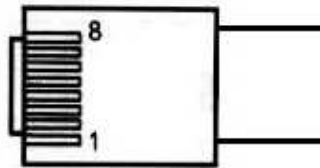| Pin	Wire Color	Designation
1		
2		
3	Orange	D(+)
4	W/Orange	D(-)
5	Brown	GND
6	W/Brown	
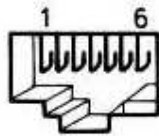
Jack End RJ-11

Plug End RJ-11 6 Conductor
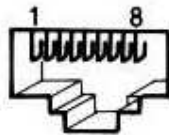
Jack End RJ-45

Plug End RJ-45 8 Conductor

Jacks shown external view   Clip at bottom of plug end

DC Power Jack:

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