



FEATURE

- Outputs: 4 channel
- BUS+SEQUENCER+FADER+DIMMER+DRIVER
- Input: DC 12/24 Vdc
- BUS Command: DMX512-A+RDM , DALI
- Control: dimmer, dim to warm, Tunable White, RGB, RGBW, RGBW, RGBA
- Voltage outputs for R Loads
- Typical efficiency > 95%
- Adjusting the brightness up to completed off (Dim to Dark)
- Level minimum of brightness: 0.1%
- D-PWM modulation
- Adjusting D-PWM frequency: 600 / 1200 Hz
- Adjusting output curve:
 - Linear / Exponential variant DMX
 - Linear / Logarithmic variant DALI
- Soft start and soft stop
- Soft dimming regulation
- Extended temperature range
- 100% Functional Test – 5 Years warranty

➔ For the whole and update Device Manual refer to producer's website: <http://www.dalcnet.com>

➤ **Constant Voltage variant (Common Anode)**

- Application (4 – output channel): Dimmer, Dim to warm, Tunable White, RGB, RGBW, RGBA

CODE	Supply Voltage	Output	Channel	Command	
DLP1224-4CV-DMX	12/24V DC	4x5A (max 20A tot.)	4	DMX	PROFESSIONAL
DLP1224-4CV-DALI	12/24V DC	4x5A (max 20A tot.)	4	DALI	PROFESSIONAL

➤ **Protection**

OVP	Over voltage protection (*)
UVP	Under voltage protection (*)
RVP	Reverse polarity protection (*)
IFP	Input fuse protection (*)

(*) Only control Logic protection

➤ Reference Standards

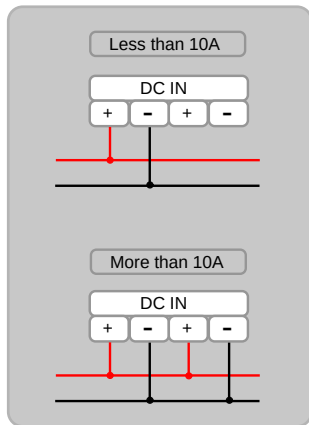
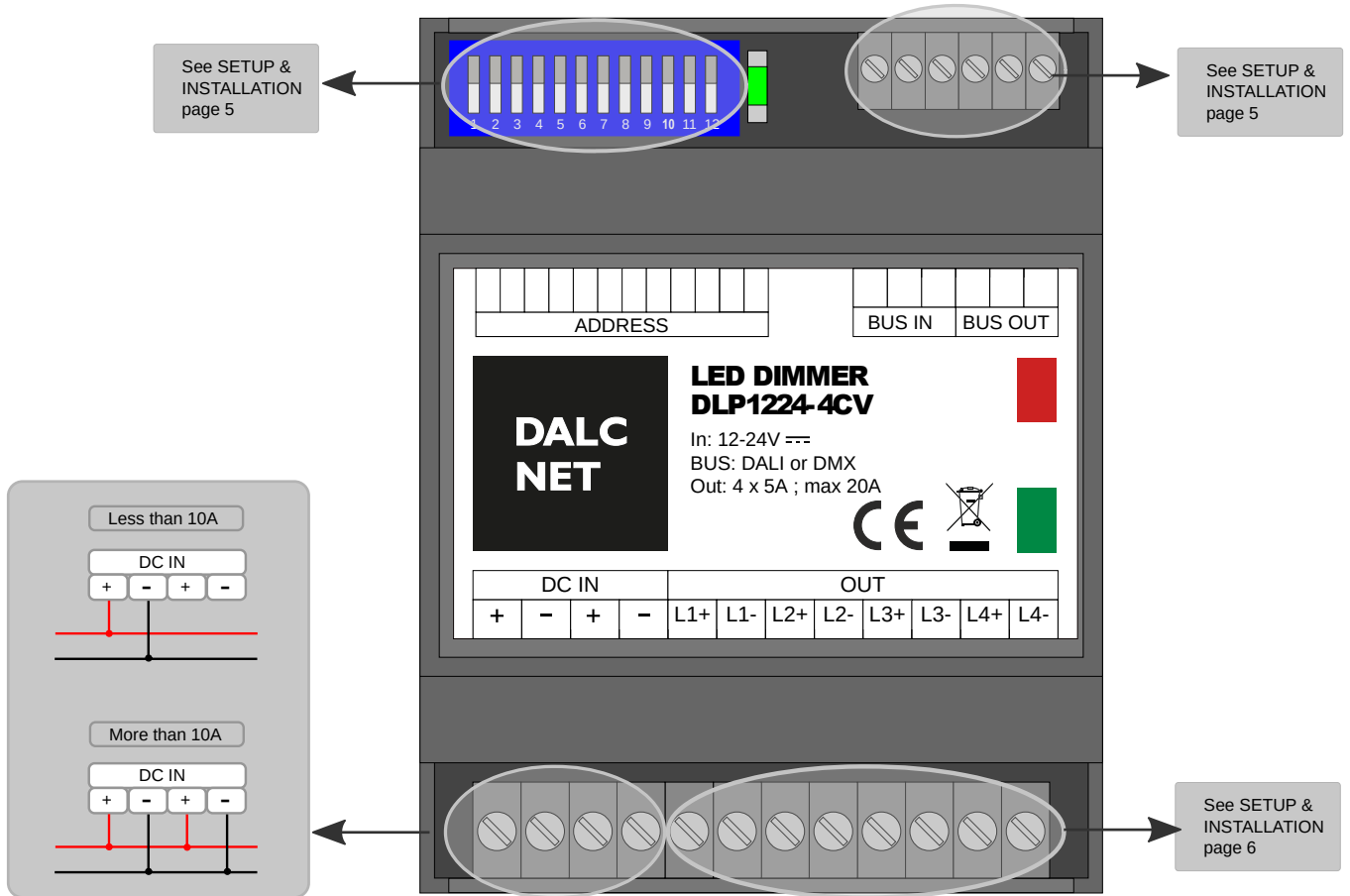
EN 61347-1	Lamp controlgear - Part 1: General and safety requirements
EN 55015	Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment
EN 61547	Equipment for general lighting purposes - EMC immunity requirements
EN 50581	Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances
IEC/EN 62386-101	Digital addressable lighting interface - Part 101: General requirements - System
IEC/EN 62386-102	Digital addressable lighting interface - Part 102: General requirements - Control gear
IEC/EN 62386-207	Digital addressable lighting interface - Part 207: Particular requirements for control gear - LED modules (device type 6)
ANSI E1.11	Entertainment Technology - USITT DMX512-A - Asynchronous Serial Digital Data Transmission Standard for Controlling Lighting Equipment and Accessories
ANSI E1.20	Entertainment Technology-RDM-Remote Device Management over USITT DMX512 Networks

➤ Technical Specification

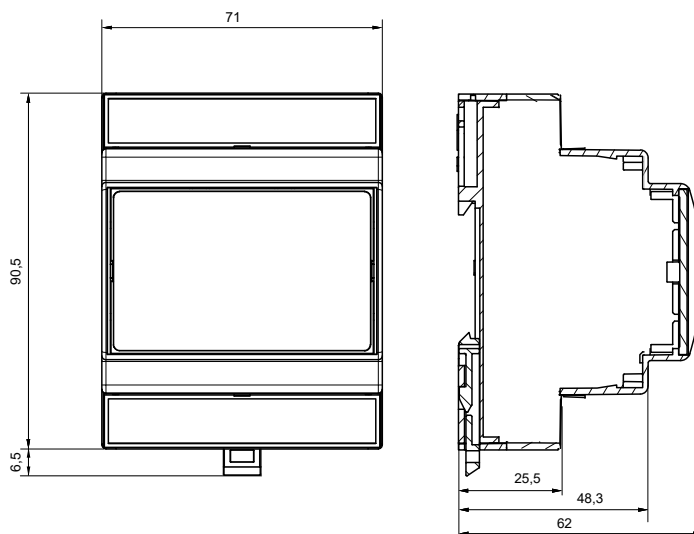
		Variant Constant Voltage	
Supply Voltage		DC min: 10.8 Vdc .. max: 26,4 Vdc	
Output Voltage		= Vin	
Input Current		max 20A	
Output Current(**)		@ ch	Total
		4x 5A	max 20A TOTAL
Nominal Power (**)	@12V	60 W/ch	240 W total
	@24V	120 W/ch	480 W total
Power loss in standby mode		< 500mW	
Type Load		R	
D-PWM Dimming Frequency		600Hz – 1200Hz	
D-PWM Resolution		16 bit	
D-PWM Range		0,1% ÷ 100%	
Storage Temperature		min: -40 max: +60 °C	
Ambient Temperature (**)		min: -40 max: +60 °C	
Protection Grade		IP10	
Power & Leds Wiring		Power & Leds: 2.5mm ² - 30/12 AWG	
Power & Leds Wiring preparation length		5,5÷6,5 mm	
Bus Wiring		Bus: 1.5 mm ² - 30/16 AWG	
Bus Wiring preparation length		5÷6 mm	
Mechanical Dimension		72 x 92 x 62 mm - DIN RAIL 4mod.	
Packaging Dimension		124 x 85 x 71 mm	
Casing material		Plastic	
Weight		115g	

(**) maximum value, dependent on the ventilation conditions.

➤ **Installation**



➤ **Mechanical Dimension**



Note Tecniche

Installation:

- Installation and maintenance must be performed only by qualified personnel in compliance with current regulations.
- The product must be installed inside an electrical panel protected against overvoltages.
- The product must be installed in a vertical or horizontal position with the cover / label upwards or vertically; Other positions are not permitted. It is not permitted to bottom-up position (with the cover / label down).
- Keep separated the circuits at 230V (LV) and the circuits not SELV from circuits to low voltage (SELV) and from any connection with this product. It is absolutely forbidden to connect, for any reason whatsoever, directly or indirectly, the 230V mains voltage to the bus or to other parts of the circuit.

Power Supply:

- For the power supply use only a SELV power supplies with limited current, short circuit protection and the power must be dimensioned correctly. In case of using power supply with ground terminals, all points of the protective earth (PE = Protection Earth) must be connected to a valid and certified protection earth.
- The connection cables between the power source "low voltage" and the product must be dimensioned correctly and they should be isolated from every wiring or parts at voltage not SELV. Use double insulated cables.
- In case of output currents higher at 10A, connect at the power supply both pairs of power supply input "V +" and "V-".
- Dimension the power supply for the load connected to the device. If the power supply is oversized compared with the maximum absorbed current, insert a protection against over-current between the power supply and the device.

Command:

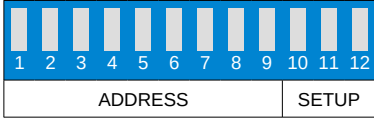
- The length and type of the connection cables at the BUS (DMX512, DALI, or other) use cables as per specification of the respective protocols and regulations and they should be isolated from every wiring or parts at voltage not SELV. It is suggested to use double insulated shielded and twisted cables.
- All the product and the control signal connect at the bus (DMX512, DALI or other) must be SELV (the devices connected must be SELV or supply a SELV signal)

Outputs:

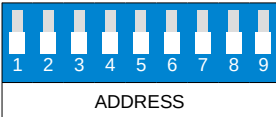
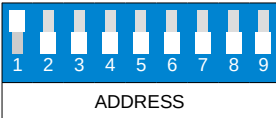
- The length of the connection cables between the product and the LED module must be less than 10m; the cables must be dimensioned correctly and they should be isolated from every wiring or parts at voltage not SELV. It is suggested to use double insulated shielded and twisted cables.

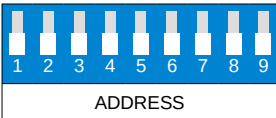
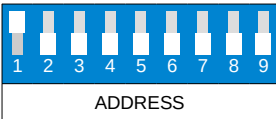
➤ **SETUP & INSTALLATION**

A 12 way dip-switch can provide a rich set of possible configurations.
Note: Factory position = all OFF



Function		<ul style="list-style-type: none"> • Switches from 1 to 9: Addressing • Switch 10: Reserved • Switch 11: Curve • Switch 12: Output frame rate (freq.)
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1) Select the Address by dip-switch: Switches from 1 to 9

DMX ADDRESSING		
000 (default):		Address defined by RDM
FROM 001		TO 511 Addressing DMX, from 1 to 511



DALI ADDRESSING		
000 (default):		Address defined by DALI
FROM 001		TO 64 Addressing DALI, from 0 to 63

2) Set Dimming Curve: Switch 11


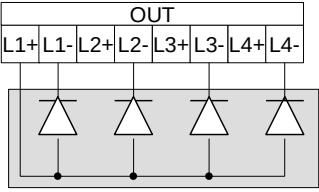
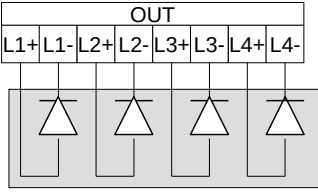
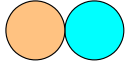
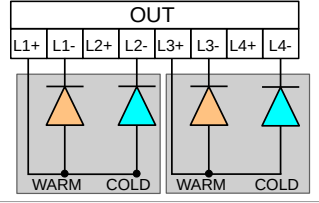
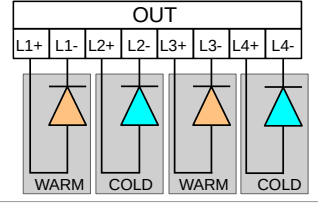
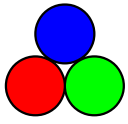
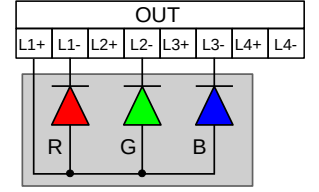
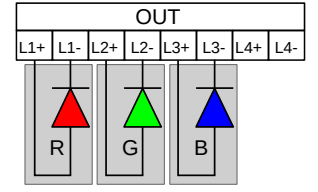
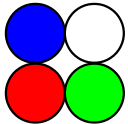
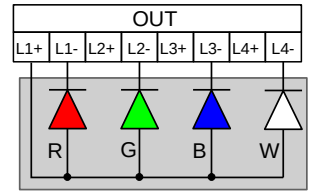
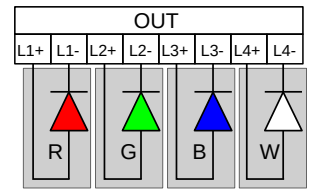
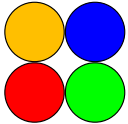
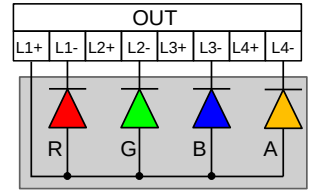
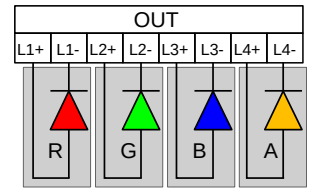
DMX VARIANT	
Exponenziale Curve	Lineare Curve
	

DALI VARIANT	
Logarithmica Curve	Lineare Curve
	

3) Set Output Frequency: Switch 12

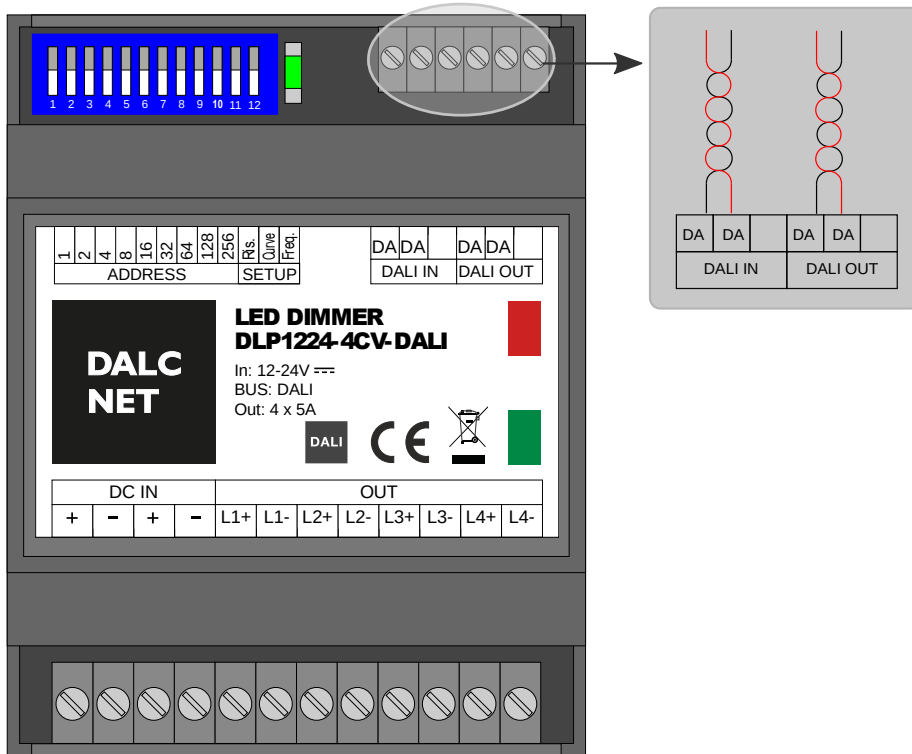
600Hz	1200Hz
	

➤ **Recommended wiring according to the type of LED load**

Type of Load	Description	Connections (total current 0 - 10A max)	Connections (total current 0 - 20A max)
	White, up to 4 loads		
	Tunable White, up to 2 loads		
	RGB		
	RGBW		
	RGBA		

➤ DALI BUS SETUP

In DALI BUS SETUP all the leds are controlled by an external DALI controller.



Features

- DALI Bus

DALI BUS Reference Standards

IEC/EN 62386-101	Digital addressable lighting interface - Part 101: General requirements - System
IEC/EN 62386-102	Digital addressable lighting interface - Part 102: General requirements - Control gear
IEC/EN 62386-207	Digital addressable lighting interface - Part 207: Particular requirements for control gear - LED modules (device type 6)

Onboard LED:

In the case of no bus power detected, or bus error, the led blinks fast (2 pulses per second).
In the case there is the bus power but there isn't data command, the led blinks slowly (1 pulse per second).
In the case of data link is active, the led remains on fixed.

Addressing:

By selectors	✓
Simplified method (One ballast connected at a time)	✓
Random Address Allocation	✓

Addressing by dip-switch:

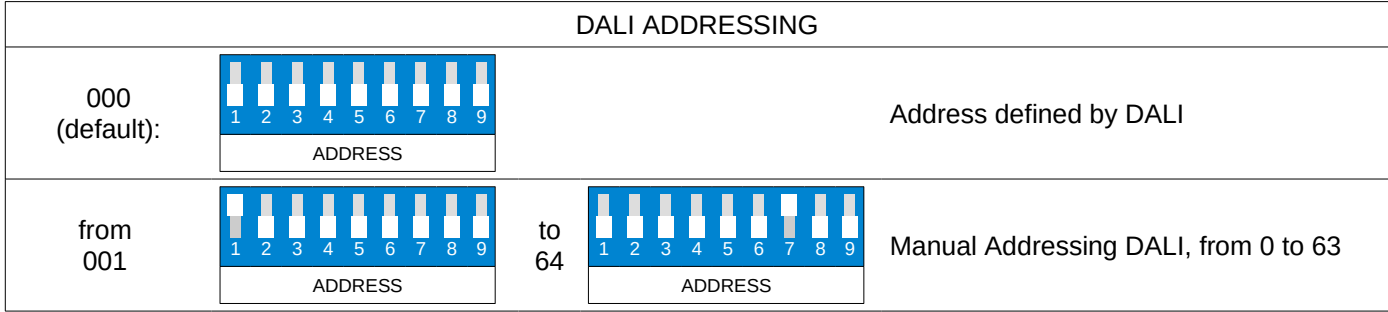
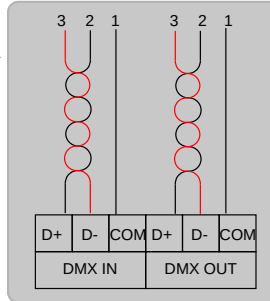
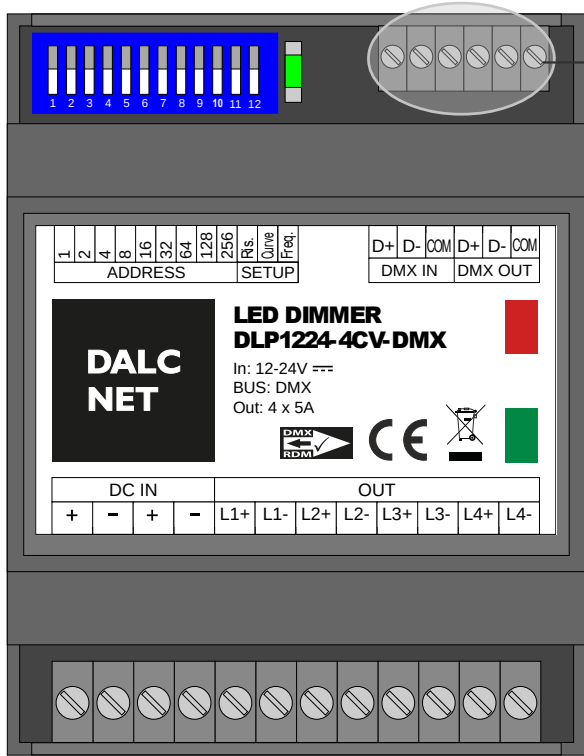


Table of address through dip-switch:

Addr	Set dip-switch	Addr	Set dip-switch	Addr	Set dip-switch	Addr	Set dip-switch	Addr	Set dip-switch
	123456789		123456789		123456789		123456789		123456789
DALI	000000000	13	101100000	26	010110000	39	111001000	52	001011000
1	100000000	14	011100000	27	110110000	40	000101000	53	101011000
2	010000000	15	111100000	28	001110000	41	100101000	54	011011000
3	110000000	16	000010000	29	101110000	42	010101000	55	111011000
4	001000000	17	100010000	30	011110000	43	110101000	56	000111000
5	101000000	18	010010000	31	111110000	44	001101000	57	100111000
6	011000000	19	110010000	32	000001000	45	101101000	58	010111000
7	111000000	20	001010000	33	100001000	46	011101000	59	110111000
8	000100000	21	101010000	34	010001000	47	111101000	60	001111000
9	100100000	22	011010000	35	110001000	48	000011000	61	101111000
10	010100000	23	111010000	36	001001000	49	100011000	62	011111000
11	110100000	24	000110000	37	101001000	50	010011000	63	111111000
12	001100000	25	100110000	38	011001000	51	110011000	64	000000100

➤ DMX+RDM BUS SETUP

With the **DMX+RDM BUS SETUP** in the “slave” condition the outputs are managed by an external DMX controller.



Features

- BUS DMX512-A (NSC+RDM)

DMX+RDM BUS Reference Standards

ANSI E1.11	Entertainment Technology - USITT DMX512-A - Asynchronous Serial Digital Data Transmission Standard for Controlling Lighting Equipment and Accessories
ANSI E1.20	Entertainment Technology-RDM-Remote Device Management over USITT DMX512 Networks

Technical Specifications:

Standard DMX512-A/RDM

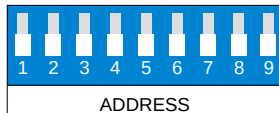
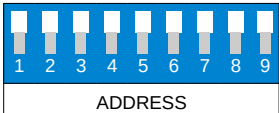
OnBoard LED

In the case of bus error, the led blinks fast (2 pulses per second).
In the case that the BUS is not detected correctly, the led blinks slowly (1 pulse per second)
In the case of data link is active, the led remains on fixed.

Addressing:

RDM	✓
By selectors	✓

Addressing by dip-switch:

DMX ADDRESSING		
000 (default):	 <p>ADDRESS</p>	Address defined by RMD
from 001	to 511	 <p>ADDRESS</p>



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DLP1224 BUS 4 canali



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Device Manual

FW 1.0

Table of address through dip-switch:

CH	set dip-switch 123456789	CH	set dip-switch 123456789	CH	set dip-switch 123456789	CH	set dip-switch 123456789	CH	set dip-switch 123456789	CH	set dip-switch 123456789
RDM	000000000	46	011101000	92	001110100	138	010100010	184	000111010	230	011001110
1	100000000	47	111101000	93	101110100	139	110100010	185	100111010	231	111001110
2	010000000	48	000011000	94	011110100	140	001100010	186	010111010	232	000101110
3	110000000	49	100011000	95	111110100	141	101100010	187	110111010	233	100101110
4	001000000	50	010011000	96	000001100	142	011100010	188	001111010	234	010101110
5	101000000	51	110011000	97	100001100	143	111100010	189	101111010	235	110101110
6	011000000	52	001011000	98	010001100	144	000010010	190	011111010	236	001101110
7	111000000	53	101011000	99	110001100	145	100010010	191	111111010	237	101101110
8	000100000	54	011011000	100	001001100	146	010010010	192	000000110	238	011101110
9	100100000	55	111011000	101	101001100	147	110010010	193	100000110	239	111101110
10	010100000	56	000111000	102	011001100	148	001010010	194	010000110	240	000011110
11	110100000	57	100111000	103	111001100	149	101010010	195	110000110	241	100011110
12	001100000	58	010111000	104	000101100	150	011010010	196	001000110	242	010011110
13	101100000	59	110111000	105	100101100	151	111010010	197	101000110	243	110011110
14	011100000	60	001111000	106	010101100	152	000110010	198	011000110	244	001011110
15	111100000	61	101111000	107	110101100	153	100110010	199	111000110	245	101011110
16	000010000	62	011111000	108	001101100	154	010110010	200	000100110	246	011011110
17	100010000	63	111111000	109	101101100	155	110110010	201	100100110	247	111011110
18	010010000	64	000000100	110	011101100	156	001110010	202	010100110	248	000111110
19	110010000	65	100000100	111	111101100	157	101110010	203	110100110	249	100111110
20	001010000	66	010000100	112	000011100	158	011110010	204	001100110	250	010111110
21	101010000	67	110000100	113	100011100	159	111110010	205	101100110	251	110111110
22	011010000	68	001000100	114	010011100	160	000001010	206	011100110	252	001111110
23	111010000	69	101000100	115	110011100	161	100001010	207	111100110	253	101111110
24	000110000	70	011000100	116	001011100	162	010001010	208	000010110	254	011111110
25	100110000	71	111000100	117	101011100	163	110001010	209	100010110	255	111111110
26	010110000	72	000100100	118	011011100	164	001001010	210	010010110	256	000000001
27	110110000	73	100100100	119	111011100	165	101001010	211	110010110	257	100000001
28	001110000	74	010100100	120	000111100	166	011001010	212	001010110	258	010000001
29	101110000	75	110100100	121	100111100	167	111001010	213	101010110	259	110000001
30	011110000	76	001100100	122	010111100	168	000101010	214	011010110	260	001000001
31	111110000	77	101100100	123	110111100	169	100101010	215	111010110	261	101000001
32	000001000	78	011100100	124	001111100	170	010101010	216	000110110	262	011000001
33	100001000	79	111100100	125	101111100	171	110101010	217	100110110	263	111000001
34	010001000	80	000010100	126	011111100	172	001101010	218	010110110	264	000100001
35	110001000	81	100010100	127	111111100	173	101101010	219	110110110	265	100100001
36	001001000	82	010010100	128	000000010	174	011101010	220	001110110	266	010100001
37	101001000	83	110010100	129	100000010	175	111101010	221	101110110	267	110100001
38	011001000	84	001010100	130	010000010	176	000011010	222	011110110	268	001100001
39	111001000	85	101010100	131	110000010	177	100011010	223	111110110	269	101100001
40	000101000	86	011010100	132	001000010	178	010011010	224	000001110	270	011100001
41	100101000	87	111010100	133	101000010	179	110011010	225	100001110	271	111100001
42	010101000	88	000110100	134	011000010	180	001011010	226	010001110	272	000010001
43	110101000	89	100110100	135	111000010	181	101011010	227	110001110	273	100010001
44	001101000	90	010110100	136	000100010	182	011011010	228	001001110	274	010010001
45	101101000	91	110110100	137	100100010	183	111011010	229	101001110	275	110010001

CH	set dip-switch 123456789	CH	set dip-switch 123456789	CH	set dip-switch 123456789	CH	set dip-switch 123456789	CH	set dip-switch 123456789	CH	set dip-switch 123456789
276	001010001	317	101111001	358	011001101	399	111100011	440	000111011	481	100001111
277	101010001	318	011111001	359	111001101	400	000010011	441	100111011	482	010001111
278	011010001	319	111111001	360	000101101	401	100010011	442	010111011	483	110001111
279	111010001	320	000000101	361	100101101	402	010010011	443	110111011	484	001001111
280	000110001	321	100000101	362	010101101	403	110010011	444	001111011	485	101001111
281	100110001	322	010000101	363	110101101	404	001010011	445	101111011	486	011001111
282	010110001	323	110000101	364	001101101	405	101010011	446	011111011	487	111001111
283	110110001	324	001000101	365	101101101	406	011010011	447	111111011	488	000101111
284	001110001	325	101000101	366	011101101	407	111010011	448	000000111	489	100101111
285	101110001	326	011000101	367	111101101	408	000110011	449	100000111	490	010101111
286	011110001	327	111000101	368	000011101	409	100110011	450	010000111	491	110101111
287	111110001	328	000100101	369	100011101	410	010110011	451	110000111	492	001101111
288	000001001	329	100100101	370	010011101	411	110110011	452	001000111	493	101101111
289	100001001	330	010100101	371	110011101	412	001110011	453	101000111	494	011101111
290	010001001	331	110100101	372	001011101	413	101110011	454	011000111	495	111101111
291	110001001	332	001100101	373	101011101	414	011110011	455	111000111	496	000011111
292	001001001	333	101100101	374	011011101	415	111110011	456	000100111	497	100011111
293	101001001	334	011100101	375	111011101	416	000001011	457	100100111	498	010011111
294	011001001	335	111100101	376	000111101	417	100001011	458	010100111	499	110011111
295	111001001	336	000010101	377	100111101	418	010001011	459	110100111	500	001011111
296	000101001	337	100010101	378	010111101	419	110001011	460	001100111	501	101011111
297	100101001	338	010010101	379	110111101	420	001001011	461	101100111	502	011011111
298	010101001	339	110010101	380	001111101	421	101001011	462	011100111	503	111011111
299	110101001	340	001010101	381	101111101	422	011001011	463	111100111	504	000111111
300	001101001	341	101010101	382	011111101	423	111001011	464	000010111	505	100111111
301	101101001	342	011010101	383	111111101	424	000101011	465	100010111	506	010111111
302	011101001	343	111010101	384	000000011	425	100101011	466	010010111	507	110111111
303	111101001	344	000110101	385	100000011	426	010101011	467	110010111	508	001111111
304	000011001	345	100110101	386	010000011	427	110101011	468	001010111	509	101111111
305	100011001	346	010110101	387	110000011	428	001101011	469	101010111	510	011111111
306	010011001	347	110110101	388	001000011	429	101101011	470	011010111	511	111111111
307	110011001	348	001110101	389	101000011	430	011101011	471	111010111		
308	001011001	349	101110101	390	011000011	431	111101011	472	000110111		
309	101011001	350	011110101	391	111000011	432	000011011	473	100110111		
310	011011001	351	111110101	392	000100011	433	100011011	474	010110111		
311	111011001	352	000001101	393	100100011	434	010011011	475	110110111		
312	000111001	353	100001101	394	010100011	435	110011011	476	001110111		
313	100111001	354	010001101	395	110100011	436	001011011	477	101110111		
314	010111001	355	110001101	396	001100011	437	101011011	478	011110111		
315	110111001	356	001001101	397	101100011	438	011011011	479	111110111		
316	001111001	357	101001101	398	011100011	439	111011011	480	000001111		

RDM COMMANDS*PARAMETRI NECESSARI*

DISC_UNIQUE_BRANCH	✓
DISC_MUTE	✓
DISC_UN_MUTE	✓
SUPPORTED_PARAMETERS	✓
PARAMETER_DESCRIPTION	✓
DEVICE_INFO	✓
SOFTWARE_VERSION_LABEL	✓
DMX_START_ADDRESS	✓
IDENTIFY_DEVICE	✓

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PRODUCT_DETAIL_ID_LIST	✓
DEVICE_MODEL_DESCRIPTION	✓
MANUFACTURER_LABEL	✓
DEVICE_LABEL	✓
BOOT_SOFTWARE_VERSION_ID	✓
BOOT_SOFTWARE_VERSION_LABEL	✓
DMX_PERSONALITY	✓
DMX_PERSONALITY_DESCRIPTION	✓
SLOT_INFO	✓
SLOT_DESCRIPTION	✓
DEFAULT_SLOT_VALUE	✓