



FW 2.0+

**CARATTERISTICHE**

- BUS+SEQUENCER+FADER+DIMMER+DRIVER
- Ingresso: DC 12-24 Vdc
- Comando BUS: DMX512, DALI o funzionamento stand alone
- Controllo: colore RGB o RGBW
- Uscite in tensione o corrente
- Efficienza tipica 94%
- Circuito azzeramento delle correnti disperse
- Accensione e spegnimento morbidi
- Curva di regolazione ottimizzata
- Range di temperatura esteso
- garanzia 2 anni

FEATURES

- BUS+SEQUENCER+FADER+DIMMER+DRIVER
- DC Input 12-24 Vdc
- Bus command: DMX512, DALI or stand alone function
- Control: RGB or RGBW color control
- Voltage or current outputs
- Typical efficiency 94%
- Bias and Leakage current reset circuit
- Soft start and soft stop
- Optimized output curve
- Extended temperature range
- 2 years warranty

Varianti a corrente costante (anodo comune) - Constant current variants (common anode)

CODE	Supply Voltage	Output	Channels	Command	
DLX1224-4CC350-DMX	12÷24V DC	4x350mA	4	DMX	EASY
DLX1224-4CC350-DALI	12÷24V DC	4x350mA	4	DALI	EASY
DLX1224-4CC500-DMX	12÷24V DC	4x500mA	4	DMX	EASY
DLX1224-4CC500-DALI	12÷24V DC	4x500mA	4	DALI	EASY

- Application (4-channels output): RGB+W

Varianti a tensione costante (anodo comune) - Constant voltage variants (common anode)

CODE	Supply Voltage	Output	Channels	Command	
DLX1224-4CV-DMX	12÷24V DC	4 x max 2,5A	4	DMX	EASY
DLX1224-4CV-DALI	12÷24V DC	4 x max 2,5A	4	DALI	EASY

- Application (4-channels output): RGB+W

Protezioni - Protections

OTP*	Protezione da sovra-temperatura	<i>over temperature protection</i>
OVP	Protezione da sovralimentazione	<i>over voltage protection</i>
UVP	Protezione da sottoalimentazione	<i>under voltage protection</i>
RVP	Protezione da inversione della polarità	<i>reverse polarity protection</i>
IFP	Protezione circuito interno con fusibile di ingresso	<i>internal circuit input fuse protection</i>
SCP*	Protezione da corto circuito in uscita	<i>short circuit protection</i>
OCP*	Protezione da circuito aperto in uscita	<i>open circuit protection</i>
CLP*	Protezione con limitatore di corrente in uscita	<i>current limit protection</i>

* queste protezioni sono aggiunte solo nella variante "SCP" / that protections are added in "SCP" variant only

Normative di riferimento - Reference Standards

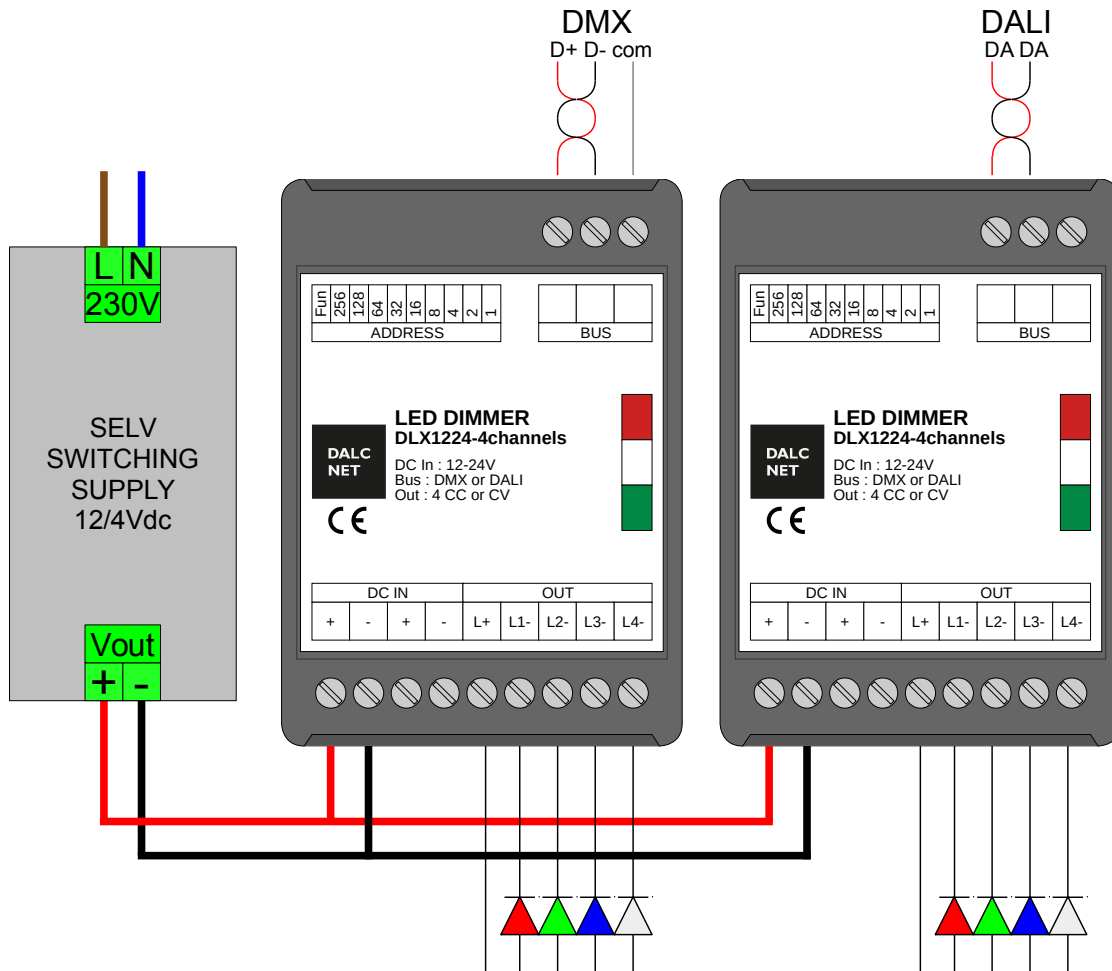
IEC/EN 61347-1	Lamp controlgear - Part 1: General and safety requirements
IEC/EN 61347-2-13	Lamp controlgear - Part 2-13: Particular requirements for d.c. or a.c. supplied electronic controlgear for LED modules
IEC/EN 62384	DC or AC supplied electronic control gear for LED modules - Performance requirements
IEC 61547	Equipment for general lighting purposes - EMC immunity requirements
IEC 61000-3-2	Electromagnetic compatibility (EMC) - Part 3-2: Limits - Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)
EN 55015	Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment
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)
IEC 60929-E.2.1	Control interface for controllable ballasts - control by d.c. voltage - functional specification
ANSI E 1.3	Entertainment Technology - Lighting Control Systems - 0 to 10V Analog Control Specification
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
-	MODBUS APPLICATION PROTOCOL SPECIFICATION V1.1b

Specifiche tecniche - Technical Specifications

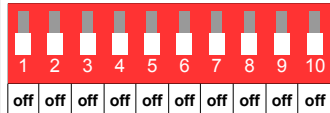
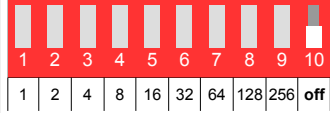
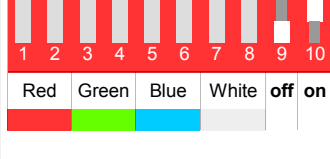

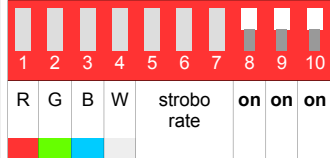
	variante-variant			
	Constant Current		Constant Voltage	
		4 channels		4 channels
Tensione di alimentazione - <i>Supply Voltage</i>	DC min: 10.8 Vdc .. max: 25,2 Vdc			
Corrente assorbita - <i>Input current</i>		max 2 A		max 10A
Potenza assorbita a vuoto - <i>No-load power</i>	< 0,5 W			
Tensione di uscita - <i>Output Voltage</i>	min: $V_{in}/4$ max: $V_{in}-0,6V$		= V_{in}	
Corrente di uscita - <i>Output current</i>	350/500 mA/ch		max 2.5 A/ch ¹⁾	
		max 2 A total		max 10 A total
Potenza nominale @12V - <i>Nominal power @12V¹⁾</i>	16,8 / 24 W		120 W	
Potenza nominale @24V - <i>Nominal power @24V¹⁾</i>	33,6 / 48 W		240 W	
Intervento termico. - <i>Thermal shutdown</i>	150 °C		150 °C	
Efficienza typ. - <i>Typ. efficiency</i>	95%		95%	
Frequenza dimmer PWM - <i>PWM dimming frequency</i>	250Hz			
Risoluzione PWM - <i>PWM resolution</i>	16 bit			
Temperatura di stoccaggio - <i>Storage temperature</i>	min: -20 max: +60 °C			
Temperatura di esercizio - <i>Working temperature¹⁾</i>	min: -10 max: +40 °C			
Classe di protezione - <i>Protection Grade</i>	IP20			
Peso - <i>Weight</i>	125g			
Dimensioni Meccaniche - <i>Mechanical dimensions</i>	75 x 54 x 26 mm			

¹⁾ valore massimo, dipendente dalle condizioni di ventilazione - maximum value, dependent on the ventilation conditions

Collegamenti - Wirings



Configurazione - Configuration

Funzione / Function	DIP-SWITCH																																																																
DMX512 RDM addressing or DALI electronic addressing		Tutti i dip switch a OFF abilitano l'indirizzamento elettronico da DMX RDM o DALI. <i>All dips to OFF enables electronic addressing by DMX RDM or DALI.</i>																																																															
DMX512 manual addressing [1..511] or DALI manual addressing [1..64]	 <table border="1"> <tr> <td>1</td><td>2</td><td>4</td><td>8</td><td>16</td><td>32</td><td>64</td><td>128</td><td>256</td><td>off</td> </tr> </table>	1	2	4	8	16	32	64	128	256	off	dip10 = off Indirizzo DMX da 1 a 511 = (1*dip1 + 2*dip2 + 4*dip3 + ... + 256*dip9) Indirizzo DALI da 0 a 63 = (1*dip1 + 2*dip2 + 4*dip3 + ... + 64*dip7) -1																																																					
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STAND ALONE: 64 static colors		dip10 = on, dip9 = off <table border="1"> <thead> <tr> <th>Level</th> <th>dip1,2: ch1</th> <th>dip3,4: ch2</th> <th>dip5,6: ch3</th> <th>dip7,8: ch4</th> </tr> </thead> <tbody> <tr> <td>100%</td> <td>on,on</td> <td>on,on</td> <td>on,on</td> <td>on,on</td> </tr> <tr> <td>66%</td> <td>on,off</td> <td>on,off</td> <td>on,off</td> <td>on,off</td> </tr> <tr> <td>33%</td> <td>off,on</td> <td>off,on</td> <td>off,on</td> <td>off,on</td> </tr> <tr> <td>0%</td> <td>off,off</td> <td>off,off</td> <td>off,off</td> <td>off,off</td> </tr> </tbody> </table>	Level	dip1,2: ch1	dip3,4: ch2	dip5,6: ch3	dip7,8: ch4	100%	on,on	on,on	on,on	on,on	66%	on,off	on,off	on,off	on,off	33%	off,on	off,on	off,on	off,on	0%	off,off	off,off	off,off	off,off																																						
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STAND ALONE: color rainbow		dip10 = on, dip9 = on, dip8 = off <table border="1"> <thead> <tr> <th>Level</th> <th>dip1,2: colors</th> <th>dip3,4: white</th> <th>time</th> <th>dip5,6,7</th> </tr> </thead> <tbody> <tr> <td>100%</td> <td>on,on</td> <td>on,on</td> <td>30'</td> <td>on,on,on</td> </tr> <tr> <td>66%</td> <td>on,off</td> <td>on,off</td> <td>15'</td> <td>on,on,off</td> </tr> <tr> <td>33%</td> <td>off,on</td> <td>off,on</td> <td>6'</td> <td>on,off,on</td> </tr> <tr> <td>0%</td> <td>off,off</td> <td>off,off</td> <td>1'</td> <td>on,off,off</td> </tr> <tr> <td></td> <td></td> <td></td> <td>30s</td> <td>off,on,on</td> </tr> <tr> <td></td> <td></td> <td></td> <td>15s</td> <td>off,on,off</td> </tr> <tr> <td></td> <td></td> <td></td> <td>6s</td> <td>off,off,on</td> </tr> <tr> <td></td> <td></td> <td></td> <td>0,6s</td> <td>off,off,off</td> </tr> </tbody> </table>	Level	dip1,2: colors	dip3,4: white	time	dip5,6,7	100%	on,on	on,on	30'	on,on,on	66%	on,off	on,off	15'	on,on,off	33%	off,on	off,on	6'	on,off,on	0%	off,off	off,off	1'	on,off,off				30s	off,on,on				15s	off,on,off				6s	off,off,on				0,6s	off,off,off																		
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Note Tecniche - Technical Notes

- Per le funzioni specifiche dei comandi a bus o comandi locali, consultare il manuale funzioni disponibile sul sito del produttore.
 - L'eventuale ingresso 0÷10V è compatibile con comandi 1÷10V di tipo sinking/sourcing. Questo prodotto non fornisce corrente al comando.
 - L'installazione e la manutenzione deve essere eseguita solamente da personale qualificato nel rispetto delle normative vigenti.
 - Il prodotto deve essere installato all'interno di un quadro elettrico protetto da sovratensioni.
 - Per l'alimentazione utilizzare preferibilmente alimentatori di tipo SELV. In caso di utilizzo di alimentatori in classe I collegare obbligatoriamente TUTTI i punti di terra di protezione (PE = Protection Earth) ad un impianto di messa a terra eseguito a regola d'arte e certificato.
 - Mantenere separati i cavi a 230V dai circuiti a bassissima tensione di sicurezza (SELV) e da tutti i collegamenti di questo prodotto.
 - Per il collegamento degli ingressi pulsante, potenziometro, 0÷10V utilizzare preferibilmente cavi schermati e twistati e non superare la lunghezza consigliata di 10m.
 - Per il collegamento del bus DMX512, Modbus, DALI usare cavi come da specifica dei rispettivi protocolli e normative vigenti.
 - E' assolutamente vietato collegare, per qualunque motivo, direttamente o indirettamente, la tensione di rete 230V al bus o ad altri parti del circuito.
- *For the specific functions of bus or local commands, refer to the function handbook available on the manufacturer's website.*
 - *The 0÷10V control input is compatible with sinking/sourcing 1÷10V controls. This product does not provide current sourcing.*
 - *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*
 - *For the power supply is preferable to use a SELV power supply. In the case of using class I power supply, ALL points of the protective earth (PE = Protection Earth) must be connected to a valid protection earth .*
 - *Keep 230V cables separate from circuits to low voltage (SELV) and from any connection with this product.*
 - *For the connection of the button, potentiometer, 0-10V inputs is preferable to use shielded and twisted cables and do not exceed the recommended length of 10m.*
 - *To connect the DMX512, Modbus and DALI bus use cables as per specification of the respective protocols and regulations.*
 - *It '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.*