



LED DRIVER CONSTANT
VOLTAGE / CURRENT

LED Driver



DDS 1158

MADE IN ITALY

General description

DDS1158 is a LED driver that comes in two version:

DDS1158-V works in constant voltage mode,
DDS1158-I works in constant current mode.

DDS1158 has the following control modes:

- 1) DMX-RDM
- 2) DALI-2 (DALI-2 compliant)
- 3) Analog inputs
- 4) Push-buttons (connected to inputs)
- 5) Potentiometers (connected to inputs)

Working modes are selected by three rotary switch and an alphanumeric display shows parameters: "I" version has a further rotary switch to select output current.

There are a total of four output that works in "sink" mode suitable for common anode LED light loads: in "V" version we have a maximum current of 5A for each outputs and a maximum total current of 16A (possible configurations: 4A x 4 outputs or 5A x 3 outputs).

In "I" version maximum output current is 1050mA but outputs can be parallelized.

Descrizione generale

La DDS1158 è un driver LED che viene prodotto in due versioni:

DDS1158-V a tensione costante
DDS1158-I a corrente costante.

La DDS1158 ha diverse modalità di controllo:

- 1) DMX-RDM
- 2) DALI (DALI-2 compatibile)
- 3) Ingressi analogici
- 4) Pulsanti (collegati agli ingressi)
- 5) Potenzimetri (collegati agli ingressi)

Le modalità di funzionamento si impostano tramite tre commutatori rotativi mentre un display alfanumerico visualizza i parametri: nella versione "I" è presente un ulteriore commutatore rotativo per la selezione della corrente di uscita.

Le uscite sono quattro e lavorano in modalità "Sink" adatta a luci LED ad anodo comune: nella versione "V" abbiamo un limite di 5A per ogni uscita ed un limite totale di 16A (configurazioni possibili: 4A x 4 uscite oppure 5A x 3 uscite).

Nella versione "I" la massima corrente impostabile è di 1050mA ma le uscite possono anche essere parallelizzate.



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DDS1158-V Constant Voltage



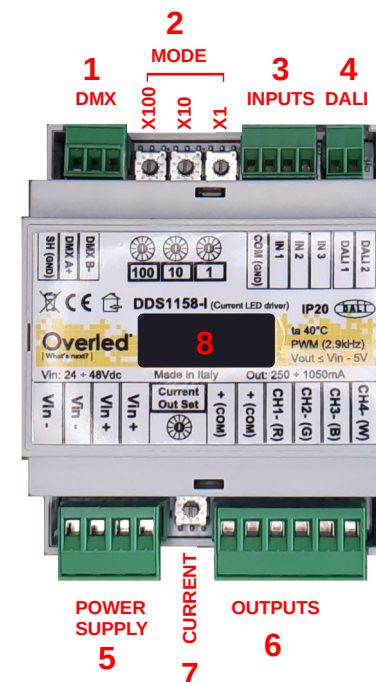
LEGEND

- 1) DMX connector
- 2) Rotary switch for MODE selection (see Manual on page 6)
- 3) INPUT connector
- 4) DALI connector
- 5) POWER SUPPLY connector: for current > 10A absolutely use both Vin+/Vin- couple.
- 6) OUTPUT: for "V" version max 5A each out, total 16A (4A x 4 or 5A x 3)
- 7) Rotary Switch for current selection ("I" version only)
- 8) Display (0.91" 128x32)

LEGENDA

- 1) Connettore DMX
- 2) Contraves per selezione Modalità di funzionamento (vedi Manuale a pag.6)
- 3) Connettore INGRESSI
- 4) Connettore DALI
- 5) Connettore ALIMENTAZIONE: per correnti > 10A utilizzare tassativamente entrambe le coppie Vin+/Vin-.
- 6) Connettore USCITE: per la versione "V" max 5A per ogni uscita e 16A totali (4A x 4 or 5A x 3)
- 7) Contraves per la selezione della corrente (solo versione "I").
- 8) Display (0.91" 128x32)

DDS1158-I Constant Current



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Technical specifications

DDS1158-V Constant Voltage

Power Supply Spec	MIN	TYP	MAX
Nominal Supply Voltage (Vin)	12Vdc	24Vdc	48Vdc
Power Supply Range (Vin)	10Vdc		52Vdc
Output Voltage (VCH1,...,VCH4)			Vin - 0.6V
Single Channel Output Current (ICH1,...,ICH4)			5A
Total Output Current (ICH1+...+ICH4)			16A
PWM frequency		2,9kHz	
Current Control Resolution		14bit	
Thermal Spec	MIN	TYP	MAX
Operating temperature (Ta)	0°C		+40°C
Storage temperature (Ts)	-10°C		+60°C
Storage Relative humidity (RH)			80%
Protections			
Fuse	25A T		
Other protections	Short Circuit, Overtemperature.		
Wiring Spec			
Connection	Phoenix Contact MSTB 2,5 p.5,08 Series Phoenix Contact MC 1,5 p.3,81 Series		
Wire section	max 2,5mm ² , max 10A per pin max 1,5mm ²		
Supported Communication protocols	DALI (DALI-2 compliant), DMX(RDM)		

DDS1158-I Constant Current

Power Supply Spec	MIN	TYP	MAX
Nominal Supply Voltage (Vin)	24Vdc		48Vdc
Power Supply Range (Vin)	20Vdc		52Vdc
Output Voltage (VCH1,...,VCH4)			Vin - 5V
Single Channel Output Current (ICH1,...,ICH4)	250mA		1050mA
Output Current Steps (ICH1,...,ICH4)	250-300-350-425-500-600-700-800-900-1050mA		
PWM frequency		2,9kHz	
Current Control Resolution		14bit	
Thermal Spec	MIN	TYP	MAX
Operating temperature (Ta)	0°C		+40°C
Storage temperature (Ts)	-10°C		+60°C
Storage Relative humidity (RH)			80%
Protections			
Fuse	6A T		
Other protections	Short Circuit, Overtemperature.		
Wiring Spec			
Connection	Phoenix Contact MSTB 2,5 p.5,08 Series Phoenix Contact MC 1,5 p.3,81 Series		
Wire section	max 2,5mm ² , max 10A per pin max 1,5mm ²		
Protocolli di comunicazione supportati	DALI (DALI-2 compliant), DMX(RDM)		



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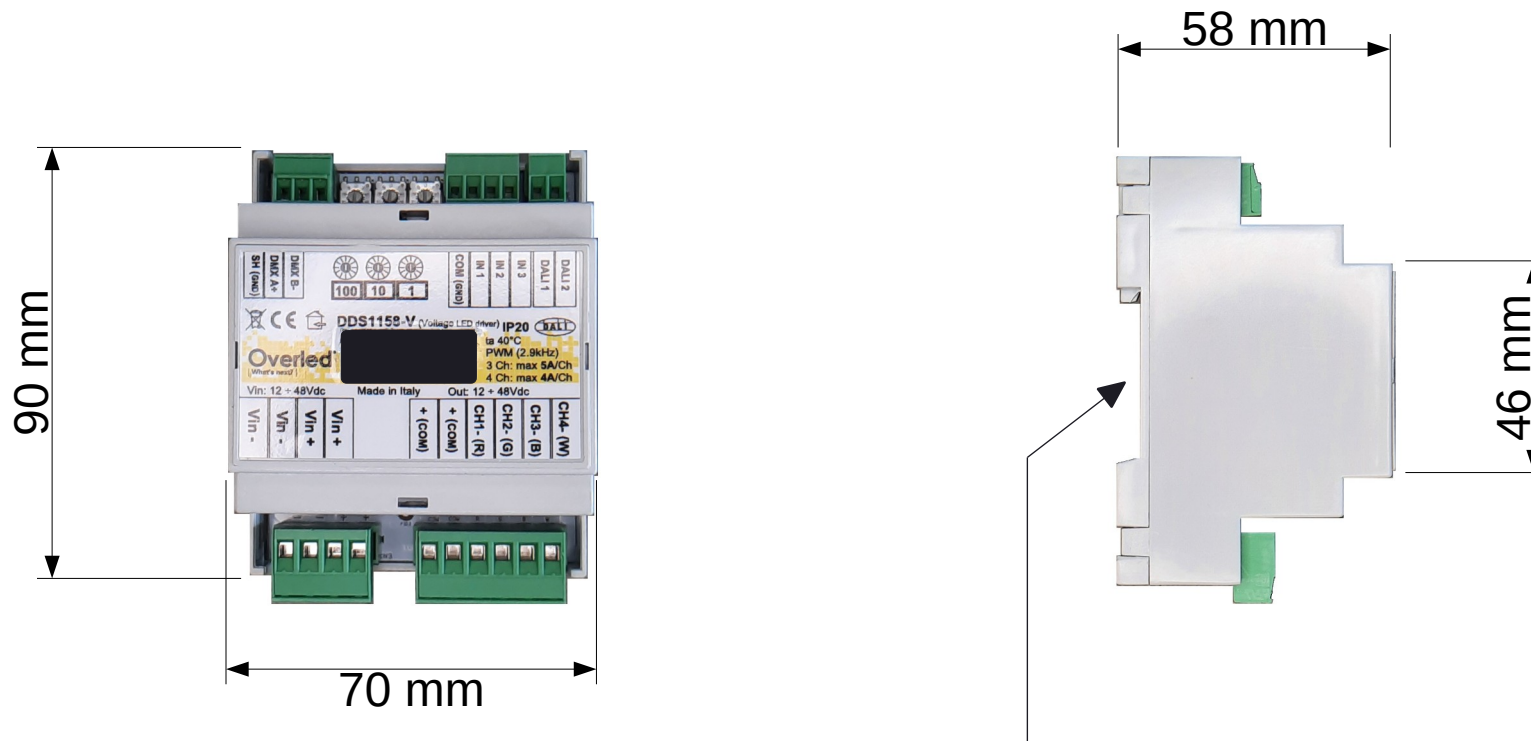
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Dimensions



DIN RAIL CLAMP

Note: Tolerance ± 1 mm



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USER MANUAL

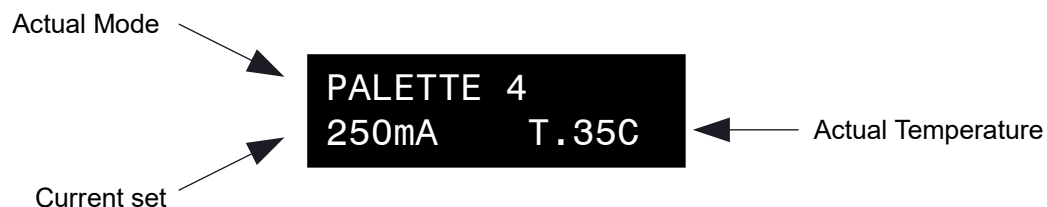
Mode Selection

Mode selection come through rotary switches (2) on page 2. They work in decimal positional notation so they can address parameter from 0 to 999. To select a specific mode set corresponding parameter as described in Table 1 (pag.6): selected mode is showed on display.

MANUALE D'USO

Selezione della modalità di funzionamento (Mode)

La selezione della modalità di funzionamento avviene per mezzo dei contraves (2) di pagina 2. Essi funzionano in notazione posizionale decimale in modo da indirizzare i parametri da 0 a 999. Per selezionare una modalità specifica occorre impostare il relativo parametro secondo Tabella 1 (pag.6): la modalità impostata viene visualizzata sul display.



Current selection ("I" version only)

Current selection come trough rotary switch (7) (pag.2): available values are the following:

Impostazione della corrente (solo versione "I")

L'impostazione della corrente avviene mediante il contraves (7) (pag.2): i valori disponibili sono i seguenti:

#	0	1	2	3	4	5	6	7	8	9
Current Out Set	250 mA	300 mA	350 mA	425 mA	500 mA	600 mA	700 mA	800 mA	900 mA	1050 mA



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USER MANUAL

Table 1 is the user reference for operating with DDS1158: for synthesis reasons the following abbreviations are used:

P1+P2	contemporary press of push-buttons 1 and 2
//	parallel
inc/dec	increment / decrement channel intensity
=>	controls, activates (es. IN1 => CH1, IN1 controls CH1).
Long-press	means a long press duration (>1.5s)
Short-press	means a short press duration (< 1.5s)
Double-press	means a double press (like mouse double-click)

MANUALE D'USO

La Tabella1 è il riferimento per l'uso della DDS1158: per ragioni di sintesi sono impiegate le seguenti abbreviazioni:

P1+P2	pressione contemporanea dei pulsanti 1 e 2
//	parallelo
inc/dec	incrementa/decrementa intensità di uscita
=>	controlla, attiva. (es. IN1 => CH1, IN1 controls CH1)
Long-press	significa una pressione prolungata (>1.5s) del tasto
Short-press	pressione breve (<1.5s) del tasto
Double-press	doppia pressione (come il doppio-click del mouse)



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TABLE 1 (1/4)

Mode	Parameter	Display	Configuration	Description
DALI	900 ÷ 999	DALI 0 1 2 3 250mA T.34C		DALI control
DMX-RDM	1 ÷ 512	DMX ADDRESS xxx 250mA T.34C		DMX control with ch1 dmx address (xxx) = "parameter" (1 ÷ 512)
	0, 513 ÷ 599	xxx = ch1 dmx address		DMX control with ch1 dmx address (xxx) set by RDM (default is "1")
INGRESSI 0 ÷ 10V	600 ÷ 601	1 X 0-10V 250mA T.34C	1 INPUT	IN1 => CH1+CH2+CH3+CH4
	602	2 X 0-10V 250mA T.34C	2 INPUT	IN1 => CH1+CH2, IN2 => CH3+CH4
	603 ÷ 609	3 X 0-10V 250mA T.34C	3 INPUT	IN1 => CH1, IN2 => CH2, IN3 => CH3 + CH4
INGRESSI 0 ÷ 9V	610 ÷ 611	1 X 0-9V 250mA T.34C	1 INPUT	IN1 => CH1+CH2+CH3+CH4
	612	2 X 0-9V 250mA T.34C	2 INPUT	IN1 => CH1+CH2, IN2 => CH3+CH4
	613 ÷ 619	3 X 0-9V 250mA T.34C	3 INPUT	IN1 => CH1, IN2 => CH2, IN3 => CH3+CH4
POT 22K	620 ÷ 621	1 X POT 22K 250mA T.34C	1 POT	POT1 (IN1) => CH1+CH2+CH3+CH4
	622	2 X POT 22K 250mA T.34C	2 POT	POT1 (IN1) => CH1+CH2, POT2 (IN2) => CH3+CH4
	623 ÷ 629	3 X POT 22K 250mA T.34C	3 POT	POT1 (IN1) => CH1, POT2 (IN2) => CH2, POT3 (IN3) => CH3+CH4



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TABLE 1 (2/4)

Mode	Parameter	Display	Configuration	Description
FIXED COLOR PALETTE	700 ÷ 710	PALETTE # 250mA T.34C	2 PUSH BUTTONS	Set palette colour by Table2 . Press P1 => next palette Long-press P2 => inc/dec intensity Long-press P1 => outputs "off" Press P1 with output "off" => outputs "on"
PREPROGRAMMED SHOW	711 ÷ 720	SHOW # 250mA T.34C	2 PUSH BUTTONS	Set palette colour by Table3 . Press P1 => next show Long-press P2 => inc/dec intensity Long-press P1 => outputs "off" Press P1 with output "off" => outputs "on"
2 BUTTONS CONTROL	730 ÷ 739	BTN UP/DOWN 250mA T.34C	2 PUSH BUTTONS	Press P2 => inc CH1+CH2+CH3+CH4 Press P3 => dec CH1+CH2+CH3+CH4
DIMMER ON/OFF	740 ÷ 741	1 X BUTTONS 250mA T.34C	1 PUSH BUTTONS	P1 => CH1+CH2+CH3+CH4
	742	2 X BUTTONS 250mA T.34C	2 PUSH BUTTONS	P1 => CH1+CH2 P2 => CH3+CH4
	743 ÷ 749	3 X BUTTONS 250mA T.34C	3 PUSH BUTTONS	P1 => CH1; P2 => CH2; P3 => CH3 P2+P3 => CH4



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TABLE 1 (3/4)

Mode	Parameter	Display	Configuration	Description
RGB/RGBW SEQUENCER	800 ÷ 805	SEQUENCER 250mA T. 34C	3 CH (RGB)	Press P1 => toggle outputs on/off; Double-press P1 => sets outputs max intensity; Long-press P1 with outputs "on" => inc/dec intensity, Long-press P1 with outputs "off" => set intensity to 10%
	806 ÷ 809		4 CH (RGBW)	Press P2 => Start/Stop Colour Rotation Long-press P2 with outputs "off" => Change rotation speed Press P3 => toggle white/colour Double-press P3 => max saturation Long-press with outputs "off" => saturation change Long-press with outputs "on" => min saturation.
DYNAMIC WHITE	810 ÷ 819	DYN WHITE 250mA T. 34C	2 PUSH BUTTONS	Press P1 => toggle outputs on/off Double-press P1 => max outputs intensity Long-Press P1 with outputs "on" => inc/dec intensity Long-Press P1 with outputs "off" => set intensity to 10% Press P2 with outputs "on" => inc/dec colour temperature
DIMMER ON/OFF/10%	820 ÷ 821	ON/OFF/10% 250mA T. 34C	1 PUSH BUTTON	P1 => CH1+CH2+CH3+CH4
	822		2 PUSH BUTTONS	P1 => CH1+CH2 P2 => CH3+CH4
	823 ÷ 829		3 PUSH BUTTONS	P1 => CH1 ; P2 => CH2 ; P3 => CH3+CH4 Double-press sets maximum intensity Long-press with outputs "on" => inc/dec intensity Long-press with outputs "off" => set intensity to 10%



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TABLE 1 (4/4)

Mode	Parameter	Display	Configuration	Description
SINGLE PUSHBUTTONS CONTROL	830 ÷ 831	ON/OFF 250mA T.34C	1 PUSH BUTTON	P1 => CH1+CH2+CH3+CH4
	832		2 PUSH BUTTONS	P1 => CH1+CH2 P2 => CH3+CH4
	833 ÷ 839		3 PUSH BUTTONS	P1 => CH1 ; P2 => CH2 ; P3 => CH3+CH4
REPLICATE OUTPUT ON DMX DEVICES	600 ÷ 629 700 ÷ 749 800 ÷ 839		Master DMX Mode	In all modes in the specified ranges, outputs can be replicated on one or more slave devices connected in DMX with the following configuration: RGBW PLAIN (personality RGBW linear) Start Address = 1



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TABLE 2 - FIXED COLOUR PALETTES

Parameter	Fixed Colour Palette		R	G	B	W
	#	Colour				
700	1	YELLOW	255	255	0	0
701	2	CYAN	0	255	255	0
702	3	GREEN	0	255	0	0
703	4	MAGENTA	255	0	255	0
704	5	RED	255	0	0	0
705	6	BLU	0	0	255	0
706	7	TURQUOISE	0	255	182	0
707	8	ORANGE	255	153	0	0
708	9	WHITE (RGB)	255	255	255	0
709	10	WHITE (RGBW)	255	255	255	255
710	11	WHITE (W)	0	0	0	255



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TABLE 3 - PRE-PROGRAMMED SHOWS

Parameter	Show		Colour Sequence	T	P
	#	Description			
711	1	RGBW	→R→G→B→W→R+W→G+W→B+W→ →M→Y→C→C+W→M+W→W→Y+W→	5s	5s
712	2	COLORI FREDDI	→CW→C→B→	10s	2s
713	3	COLORI CALDI	→WW→ARANCIO→Y→	10s	2s
714	4	RGB	→R→G→B→M→Y→C→	20s	5s
715	5	RGBW	→R→G→B→W→R+W→G+W→B+W→ →M→Y→C→C+W→M+W→W→Y+W→	10s	2s
716	6	RGB	→R→G→B→M→Y→C→W→	5s	2s
717	7	RGBW	→R→G→B→W→R+W→G+W→B+W→ →M→Y→C→C+W→M+W→W→Y+W→	40s	2s
718	8	RGBW	→R→G→B→W→R+W→G+W→B+W→ →M→Y→C→C+W→M+W→W→Y+W→	20s	2s
719	9	RGB	→R→G→B→M→Y→C→W→	40s	2s
720	10	RGB	→R→G→B→	2s	2s

Notation

- R,G,B Red, Green, Blue colours. → colour transition
- C,M,Y Cyan, Magenta, Yellow colours + colour combination
- W White (only W channel) T transition time from colour to colour
- CW Cold White (RGB channels) P time duration on the colour
- WW Wharm White (RGB channels)



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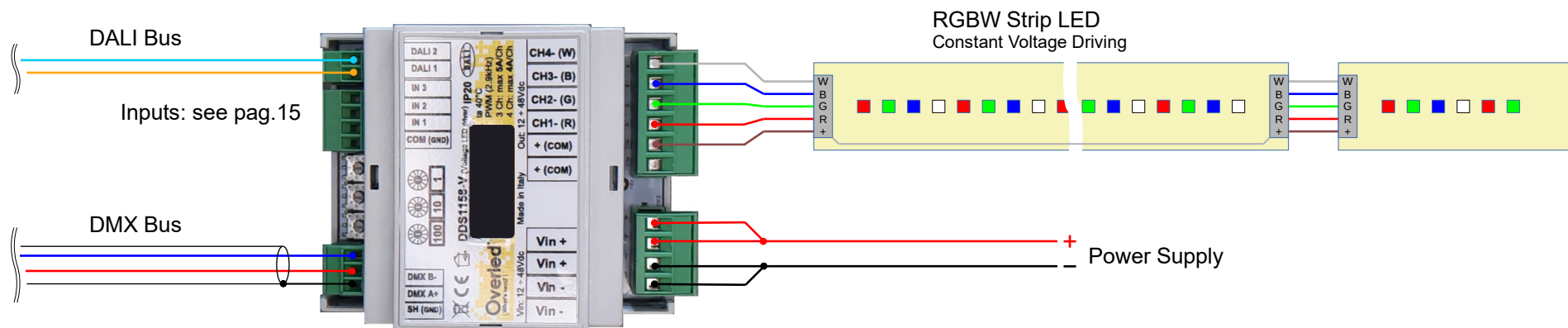
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DDS1158-V WIRING



DDS1158-V can only drive constant voltage LED loads in common anode configuration. If loads are more than one must be connected in parallel (channel by channel).

Common strip-led have the same connections present at the beginning repeated at the end so that a physical connection in cascade results in parallel electrical connection. Keep in mind that each strip-led carry the downstream strip-led current total current.

Doubling power supply connections is required if total current exceeds 10A.

La DDS1158-V può pilotare solo carichi a LED adatti a lavorare a tensione costante e configurati ad anodo comune.

Se i carichi sono più di uno devono essere collegati in parallelo (canale per canale)

Le comuni strip-led di solito riportano alla fine le stesse connessioni presenti all'inizio così, anche se sono fisicamente collegate in cascata l'una all'altra, dal punto di vista elettrico risultano in parallelo. Tenere presente che ogni strip-led porta la corrente di tutte quelle a valle.

Il raddoppio delle connessioni di alimentazione è necessario se la corrente totale supera i 10A.



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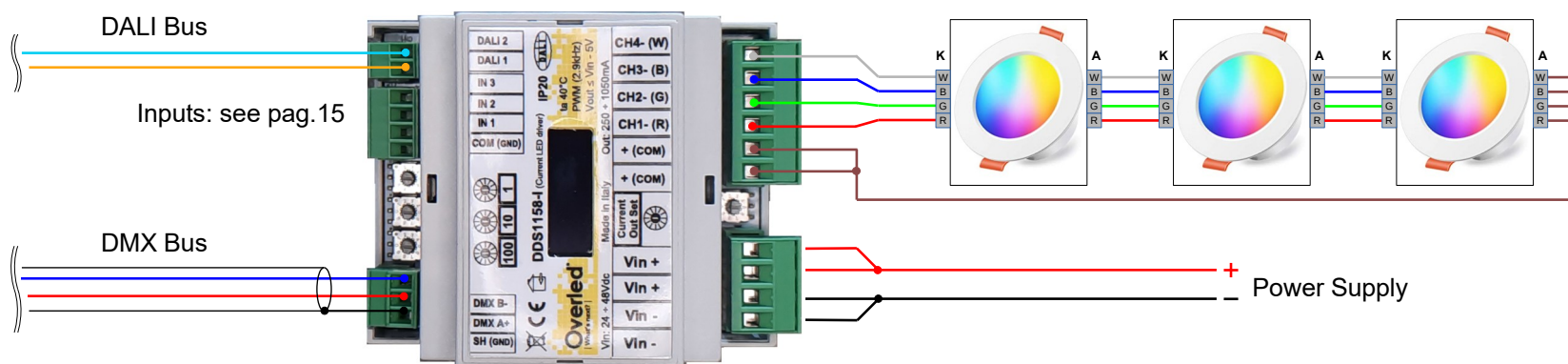
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DDS1158-I WIRING



DDS1158-I can only drive LED loads suitable for working with constant current. If loads are more than one must be connected in series (a series for each channel): to do that load must have separated anode connections.

In case of a load internally connected to common anode is possible to connect only one load.

It's not possible to connect a common cathode load.

La DDS1158-I può pilotare solo carichi a LED adatti a lavorare a corrente costante.

Se i carichi sono più di uno devono essere collegati in serie (una serie per ogni canale); per poterlo fare occorre disporre delle connessioni ai singoli anodi separatamente.

Nel caso il carico sia connesso internamente ad anodo comune, è possibile collegare un carico solo.

Non è possibile collegare carichi a catodo comune.



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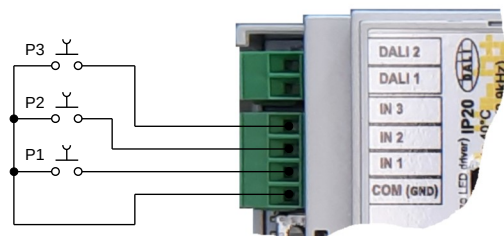


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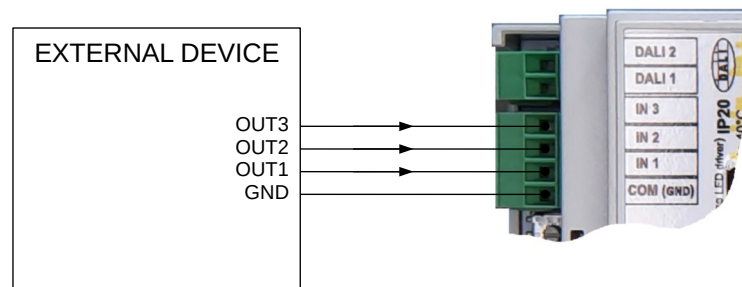
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INPUT CONNECTIONS

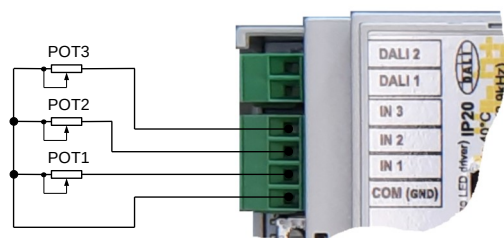
PUSH-BUTTONS



DIGITAL/ANALOG CONTROL INPUTS



POTENTIOMETERS



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