

CERTIFICATE

Issued to:
Applicant:
TCI Telecomunicazioni Italia Srl
Via Parma 14
21047 Saronno (VA), Italy

Licensee:
TCI Telecomunicazioni Italia Srl
Via Parma 14
21047 Saronno (VA), Italy

Product : Electronic controlgear for LED modules
Trade name(s) : TCI, TCI (with little dragon), TCI LED, TCI LED (with little dragon),
TCI LIGHT (with little dragon and ball in square), TCI LIGHT Saronno Italy or
TN101
Type(s)/model(s) : DC MINIJOJLY (series), UNIVERSALE 20 (series), DC MINI JOJLY DALI
(series), DC MINIJOJLY MD (series)

The product and any acceptable variation thereto is specified in the Annex to this certificate and the documents therein referred to.

DEKRA hereby declares that the above-mentioned product has been certified on the basis of:

- a type test according to the standard EN 61347-2-13:2014, EN 61347-2-13:2014/A1:2017, EN 61347-1:2015, EN 62384:2006 and EN 62384:2006/A1:2009
- an inspection of the production location according to CENELEC Operational Document CIG 021
- a certification agreement with the number 2033015

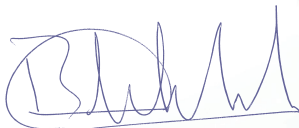
DEKRA hereby grants the right to use the ENEC certification mark.

The ENEC certification mark may be applied to the product as specified in this certificate for the duration of the ENEC certification agreement and under the conditions of the ENEC certification agreement.

This certificate is issued on 20 December 2019 and expires upon withdrawal of one of the above mentioned standards.

Certificate number: 81-111324

DEKRA Certification B.V.



B.T.M. Holtus
Managing Director



H.R.M. Barends
Certification Manager

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SPECIFICATION OF THE CERTIFIED PRODUCT**Product data**

Product	: Electronic controlgear for LED modules
Trade name(s)	: TCI, TCI (with little dragon), TCI LED, TCI LED (with little dragon), TCI LIGHT (with little dragon and ball in square), TCI LIGHT Saronno Italy or TN101
Type(s)/model(s)	: DC MINIJOLLY (series), DC MINIJOLLY FN (series), DC MINIJOLLY HV (series), DC MINIJOLLY IPR2 (series), DC MINIJOLLY LC (series), DC MINIJOLLY LC DALI (series), DC MINIJOLLY MD (series), DC MINI JOLLY DALI (series), DC MINI JOLLY DALI IPR2 (series), IPR2 (series), UNIVERSALE 20 (series), UNIVERSALE 20 HC (series), UNIVERSALE 20 LC (series) and UNIVERSALE 20 WR (series)
Primary voltage	: 110-277 V
Nature of supply	: alternate current
Rated frequency	: 50/60 Hz
Power factor	: From 0,85 C to 0,99
Working voltage U-OUT	: From 49 to 59 V
Type of load	: LED modules, power LED
Ambient temperature	: From -40 to +70 °C
Type of thermal protection	: From 110 to 120 °C
Classification	: Independent, built in, integral

TESTS**Test requirements**

EN 61347-2-13:2014
EN 61347-2-13:2014/A1:2017
EN 61347-1:2015
EN 62384:2006
EN 62384:2006/A1:2009

Test result

The test results are laid down in DEKRA test file 350033600.

Additional information

For specific Model/Type electrical rating refer to following pages.

DEKRA test report No. 2102817.50 and 2102817.60 are laid down in DEKRA test file 350033600; they contain test results and critical component list.

Conclusion

The examination proved that all requirements were met.

Factory location

TCI Telecomunicazioni Italia Srl
Via Parma 14
21047 Saronno (VA), Italy

General product information: These devices are electronic controlgears for LED modules with SELV output. The devices have a stabilized output current (CC) or voltage (CV) according to S1 DIP switch selection. The output can be reduced by NTC control signal (if present) in case of overheating on the LED module. Dimming features are detailed in the technical specification: PUSH L, 1..10V, MIDNIGHT, BILEVEL, BILEVEL N, PLV, DALI, Main Dimming. The models including the suffix "IM" differ only for the value of minimum dimming level. Different commercial codes are assigned for PWM (cod. 122xxx, 123xxx), AM+PWM (cod. 125xxx), AM (cod. 151xxx, 152xxx). UNIVERSALE models are not dimmable. OF models are integral controlgears; BI models are built-in; the other models are independent, class II, IP20, except for IPR2 models that are IP68; the models with suffix "LO" are provided of looping on mains, I_{max} = 5 A.

Type/s (codes 122xxx)	PRI voltage (V)	PRI Current (A)	Power Factor	Output Power (W) [3]	SEC Parameter [4]	Uout (V)	t _a (°C)	t _c (°C) [5]	Prot. type (°C)
UNIVERSALE 20 (K2361)	220-240	0,11 [2]	0,97	13-20 16	0,25-0,7 A 24 V	59	-25..50	75/80	-
UNIVERSALE 20 BI (K2367)									
UNIVERSALE 20 OF (K2B24)									
UNIVERSALE 20 LC (K2512)	220-240	0,12 [2]	0,91 C- 0,95	5,4-20 9	0,1-0,38 A 24 V	59	-25..50	75	C.5.a 110 [6]
UNIVERSALE 20 LC BI (K2513)									
UNIVERSALE 20 LC OF (K2B25)									
DC MINIJOJLY LC DALI (K2609)	110-240	0,18 [2]	0,91 C- 0,95	5,4-20 9	0,1-0,38 A 24 V	59	-25..50	75	C.5.a 120 [6]
DC MINIJOJLY LC DALI BI (K2614)									
UNIVERSALE 20 HC (K2508)	110-240	0,17 [2]	0,95	15-20 20	0,35-0,9 A 24 V	49	-25..45/50 [5]	70/75	C.5.a 110 [6]
UNIVERSALE 20 HC BI (K2509)									
UNIVERSALE 20 HC TG (K2510)									
UNIVERSALE 20 HC TG BI (K2511)									
UNIVERSALE 20 HC OF (K2B26)									
UNIVERSALE 20 HC TG OF (K2B27)									
DC MINIJOJLY HV (K2619), DC MINIJOJLY HV MIDNIGHT (K2620), DC MINIJOJLY HV BILEVEL (K2621), DC MINIJOJLY HV BILEVEL N (K2622), DC MINIJOJLY HV PLV IM (K2623)	110-240	0,17 [2]	0,91 C- 0,95 *0,94 C- 0,95	13-20 7-16	0,25-0,7 A 10-24 V	59	-25..50	70/80	C.5.a 110 [6]
DC MINIJOJLY HV BI (K2624), DC MINIJOJLY HV MIDNIGHT BI (K2625), DC MINIJOJLY HV BILEVEL BI (K2626), DC MINIJOJLY HV BILEVEL N BI (K2627), DC MINIJOJLY HV PLV IM BI (K2628)									
DC MINIJOJLY (K2781), DC MINIJOJLY MIDNIGHT (K2782), DC MINIJOJLY BILEVEL (K2783), DC MINIJOJLY BILEVEL N (K2784), DC MINIJOJLY PLV (K2785)	110- 240	0,16 [2]	0,95	15-20 9-20	0,35-0,9 A 10-24 V	49	-25..50	75/80	C.5.a 110 [6]
DC MINIJOJLY BI (K2786), DC MINIJOJLY MIDNIGHT BI (K2787), DC MINIJOJLY BILEVEL BI (K2788), DC MINIJOJLY BILEVEL N BI (K2789), DC MINIJOJLY PLV BI (K2790)									
DC MINI JOJLY DALI (K2791)	110- 240	0,18 [2]	0,92 C- 0,97	10-20 16	0,25-0,7 A 24 V	55	-25..45	75	C.5.a 120[6]
DC MINI JOJLY DALI BI (K2792)									
DC MINIJOJLY LC (K2514), DC MINIJOJLY LC MIDNIGHT (K2610), DC MINIJOJLY LC BILEVEL (K2611), DC MINIJOJLY LC BILEVEL N (K2612), DC MINIJOJLY LC PLV (K2613)	110- 240	0,12- 0,16 [2]	0,91 C- 0,95	5,4-20 9	0,1-0,38 A 24 V	59	-25..50	75	C.5.a 110 [6]
DC MINIJOJLY LC BI (K2515), DC									

MINIJOLLY LC MIDNIGHT BI (K2615), DC MINIJOLLY LC BILEVEL BI (K2616), DC MINIJOLLY LC BILEVEL N BI (K2617), DC MINIJOLLY LC PLV BI (K2618)									
Notes: see following page									

Type/s (codes 123xxx)	PRI voltage (V)	PRI Current (A)	Power Factor	Output Power (W) [3]	SEC Parameter [4]	Uout (V)	t _a (°C)	t _c (°C) [5]	Prot. type (°C)
DC MINIJOLLY (K2B38), DC MINIJOLLY MIDNIGHT (K2B39), DC MINIJOLLY BILEVEL (K2B40), DC MINIJOLLY BILEVEL N (K2B41), DC MINIJOLLY PLV (K2B42)	110-240	0,16 [2]	0,95	15-20	0,35-0,9 A 12-24 V	49	-25..50	75/80	C.5.a 110 [6]
DC MINIJOLLY BI (K2B43), DC MINIJOLLY MIDNIGHT BI (K2B44), DC MINIJOLLY BILEVEL BI (K2B45), DC MINIJOLLY BILEVEL N BI (K2B46), DC MINIJOLLY PLV BI (K2B47)							-	80	-
DC MINI JOLLY DALI (K2B48)	110-240	0,18 [2]	0,92 C- 0,97	10-20 16	0,25-0,7 A 24 V	55	-25..45	75	C.5.a 120[6]
DC MINI JOLLY DALI BI (K2B49)							-	80	-
DC MINI JOLLY DALI OF (K2B22)							-	80	-
DC MINIJOLLY HV (K2B06), DC MINIJOLLY HV MIDNIGHT (K2B09), DC MINIJOLLY HV BILEVEL (K2B12), DC MINIJOLLY HV BILEVEL N (K2B15), DC MINIJOLLY HV PLV (K2B18)	110-240	0,17 [2]	0,91 C- 0,95	13-20 16-20	0,25-0,7 A 24-48 V	59	-25..50	70/80	C.5.a 110 [6]
DC MINIJOLLY HV BI (K2624), DC MINIJOLLY HV MIDNIGHT BI (K2B10), DC MINIJOLLY HV BILEVEL BI (K2B13), DC MINIJOLLY HV BILEVEL N BI (K2B16), DC MINIJOLLY HV PLV BI (K2B19), DC MINIJOLLY HV PLV IM BI							-	80	-
DC MINIJOLLY HV OF (K2B08), DC MINIJOLLY HV PLV OF (K2B20)	-	80	-						
DC MINIJOLLY LC DALI (K2B50)	110-240	0,12-0,18 [2]	0,91 C- 0,95	5,3-20 9	0,1-0,38 A 24 V	59	-25..50	75	C.5.a 120 [6]
DC MINIJOLLY LC DALI BI (K2B04)							-	80	-
DC MINIJOLLY LC DALI OF (K2B05)							-	80	-
DC MINIJOLLY LC (K2E48)	110-240	0,12-0,16 [2]	0,91 C- 0,95	5,3-20 9	0,1-0,38 A 24 V	59	-25..50	75	C.5.a 110 [6]
DC MINIJOLLY LC BI (K2E49)							-	80	-
DC MINIJOLLY LC OF (K2E50)							-	80	-

Notes: [1] – The products are ENEC only in 220-240 V; [2] – The frequency of primary voltage is 50/60 Hz for all models; the products were tested also in 176-280 V operational range and they can be used for centralized emergency installations (EN 50171 and EN 50172) in the rated 196-255 V; I_{dc} max=0,14 A for all models. DC not used for PUSH L/RED ON/OFF/ OPERATION features. [3] – Maximum output power according to DIP switch selection (see label). Max. 15 W at 110-127 V. [4] – Output parameter where the product is declared as “stabilized”; the value is according to DIP switch selection (see label). [5] – see labels for the t_a and t_c values; t_c is on the cap of C15 capacitor for OF models. [6] – The products have an overheating protection and comply with temperature limit of clause 4.16.2 of EN 60598-1:04 (“F” triangle marking), EN 60598-1:2014, VDE 0710 T14 (“MM” triangle marking).

Type/s (codes: 127xxx)	PRI voltage (V)	PRI Current (A)	Power Factor	Output Power (W) [2]	SEC parameter [3]	Uout (V)	t _a (°C)	t _c (°C) [4]	Prot. type (°C)
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UNIVERSALE 20 WR (K2B34)	110-277	0,19	0,95	13-20 15-16	0,25-0,7 A 24 V	59	-25..45	75	C.5.a 110 [5]
UNIVERSALE 20 WR BI (K2B35)		[1]					-	80	-
UNIVERSALE 20 W OF (K2B36)									
DC MINIJOLLY MD (K2C45)	220-240	0,12	0,85C- 0,97	12-20 11-20	0,25-0,9 A 12-24 V	55	-25..45/50	75	C.5.a 110 [5]
DC MINIJOLLY MD BI (K2C46)		[1]					[4]		
DC MINIJOLLY MD OF (K2C47)								-	80

Notes: [1] – The frequency of primary voltage is 50/60 Hz for all models; the products were tested also in 176-280 V operational range and they can be used for centralized emergency installations (EN 50171 and EN 50172) in the rated 196-255 V; I_{dc} max=0,14 A for all models. [2] – Maximum output power according to DIP switch selection (see label). Max. 15 W at 110-127 V. [3] – Output parameter where the product is declared as “stabilized”; the value is according to DIP switch selection (see label). [4] – see labels for the t_a and t_c values; t_c is on the cap of C15 capacitor for OF models. [5] – The products have an overheating protection and comply with temperature limit of clause 4.16.2 of EN 60598-1:04 (“F” triangle marking), EN 60598-1:2014, VDE 0710 T14 (“MM” triangle marking).

Type/s (codes 125xxx)	PRI voltage (V)	PRI Current (A)	Power Factor	Output Power (W) [2]	SEC Parameter [3]	U _{OUT} (V)	t _a (°C)	t _c (°C) [4]	Prot. type (°C)	
DC MINIJOLLY (K2C18), DC MINIJOLLY MIDNIGHT (K2C19), DC MINIJOLLY BILEVEL (K2C20), DC MINIJOLLY BILEVEL N (K2C21), DC MINIJOLLY PLV (K2C22), DC MINIJOLLY FN (K2E54)	110-240	0,18 [1]	0,95	13-20 11-20	0,25-0,9 A 12-24 V	59	-25..50	75/80	C.5.a 110 [5]	
DC MINIJOLLY BI (K2C23), DC MINIJOLLY MIDNIGHT BI (K2C24), DC MINIJOLLY BILEVEL BI (K2C25), DC MINIJOLLY BILEVEL N BI (K2C26), DC MINIJOLLY PLV BI (K2C27), DC MINIJOLLY FN BI (K2E55)										
DC MINIJOLLY OF (K2C28), DC MINIJOLLY FN OF (K2E56)							-	80	-	
DC MINI JOLLY DALI (K2C29)	110-240	0,18 [1]	0,92 C- 0,97	12-20 16	0,25-0,7 A 24 V	55	-25..45	75	C.5.a 120[5]	
DC MINI JOLLY DALI BI (K2C30)										
DC MINI JOLLY DALI OF (K2C31)									-	80
DC MINIJOLLY LC FN (K2E57)	110-240	0,12- 0,16 [1]	0,91 C- 0,95	5,4-20	0,1-0,38 A	59	-25..50	75	C.5.a 110[5]	
DC MINIJOLLY LC FN BI (K2E58)										
DC MINIJOLLY LC FN OF (K2E59)									-	80

Notes: [1] – The frequency of primary voltage is 50/60 Hz for all models; the products were tested also in 176-280 V operational range and they can be used for centralized emergency installations (EN 50171 and EN 50172) in the rated 196-255 V; I_{dc} max=0,14 A for all models. DC not used for PUSH L/RED ON/OFF/ OPERATION features. [2] – Maximum output power according to DIP switch selection (see label). Max. 15 W at 110-127 V. [3] – Output parameter where the product is declared as “stabilized”; the value is according to DIP switch selection (see label). [4] – see labels for the t_a and t_c values; t_c is on the cap of C15 capacitor for OF models. [5] – The products have an overheating protection and comply with temperature limit of clause 4.16.2 of EN 60598-1:04 (“F” triangle marking), EN 60598-1:2014, VDE 0710 T14 (“MM” triangle marking).

Type/s (codes 151xxx)	PRI voltage (V)	PRI Current (A)	Power Factor	Output Power (W) [2]	SEC Parameter [3]	U _{OUT} (V)	t _a (°C)	t _c (°C) [4]	Prot. type (°C)
DC MINIJOLLY (K2C32), DC MINIJOLLY MIDNIGHT (K2C33), DC MINIJOLLY BILEVEL (K2C34), DC MINIJOLLY BILEVEL N (K2C35), DC MINIJOLLY PLV	110-240	0,18 [1]	0,95	13-20	0,25-0,9 A	59	-25..50	75/80	C.5.a 110 [5]

(K2C36)									
DC MINIJOLLY BI (K2C37), DC MINIJOLLY MIDNIGHT BI (K2C38), DC MINIJOLLY BILEVEL BI (K2C39), DC MINIJOLLY BILEVEL N BI (K2C40), DC MINIJOLLY PLV BI (K2C41)									
DC MINIJOLLY OF (K2C42)							-	80	-
DC MINI JOLLY DALI (K2C51)				12-20	0,25-0,7 A		-25..45	75	C.5.a
DC MINI JOLLY DALI BI (K2C52)									120 [5]
DC MINI JOLLY DALI OF (K2C53)							-	80	-
DC MINIJOLLY LC (K2E51)	110-240	0,12-0,16	0,91 C-	5,4-20	0,1-0,38 A	59	-25..50	75	C.5.a
DC MINIJOLLY LC BI (K2E52)		[2]	0,95						110 [5]
DC MINIJOLLY LC OF (K2E53)							-	80	-
Notes: [1] – The frequency of primary voltage is 50/60 Hz for all models; the products were tested also in 176-280 V operational range and they can be used for centralized emergency installations (EN 50171 and EN 50172) in the rated 196-255 V; I _{dc} max=0,14 A. DC not used for PUSH L/RED ON/OFF/ OPERATION features. [2] – Maximum output power according to DIP switch selection (see label). Max. 15 W at 110-127 V. [3] – Output parameter where the product is declared as “stabilized”; the value is according to DIP switch selection (see label). [4] – see labels for the t _a and t _c values; t _c is on the cap of C15 capacitor for OF models. [5] – The products have an overheating protection and comply with temperature limit of clause 4.16.2 of EN 60598-1:04 ("F" triangle marking), EN 60598-1:2014, VDE 0710 T14 ("MM" triangle marking).									

Type/s (codes 152xxx)	PRI voltage (V)	ac PRI Current (A)	dc PRI current (A)	Power Factor	Output Power (W) [2]	SEC Parameter	U _{OUT} (V)	t _a (°C)	t _c (°C)	Prot. type (°C)
DC MINI JOLLY DALI IPR2 (K2E60), DC MINI JOLLY DALI IPR2 LO (K2E61)	110-240	0,172- 0,187 [1]	0,201	0,95-0,99 (P _{out} >6 W)	15-30	0,25-0,7 A [3]	59	-40..60	80-90 [5]	C.5.a 120 [6]
DC MINIJOLLY 17/700 IPR2 (K2E62)	110-240	0,095- 0,175 [1]	0,12		17	0,7 A 24 V	59	-40..60	80	C.5.a 120 [6]
DC MINIJOLLY 20/500 IPR2 (K2E63)	110-240	0,11- 0,180 [1]	0,13		20	0,5 A	59	-40..60	80	C.5.a 120 [6]
IPR2 12/250 (K2E64), IPR2 12/250 LO (K2E65)	110-240	0,07- 0,138 [1]	0,08		12	0,25 A	59	-40..70	90	C.5.a 120 [6]
IPR2 17/350 (K2E66), IPR2 17/350 LO (K2E67)	110-240	0,095- 0,175 [1]	0,12		17	0,35 A	59	-40..70	90	C.5.a 120 [6]
IPR2 24/500 (K2E68), IPR2 24/500 LO (K2E69)	110-240	0,13- 0,183 [1]	0,16		24	0,5 A	59	-40..60/ 70 [4]	90	C.5.a 120 [6]
IPR2 30/700 (K2E70), IPR2 30/700 LO (K2E71)	110-240	0,172- 0,187 [1]	0,201		30	0,7 A	59	-40..60	80-90 [5]	C.5.a 120 [6]

Notes: [1] – The frequency of primary voltage is 50/60 Hz for all models; the products were tested also in 170-276 V operational range and they can be used for centralized emergency installations (EN 50171 and EN 50172) in the rated 189-250 V for IPR2 model. [2] – Maximum output power at 220-240 V, max. 15 W at 110-127 V (see labels). [3] – Output parameter where the product is declared as “stabilized”; the value is according to AOC (Adjustable Output Current) via DALI port with DALI WEB PROGRAMMER (see catalogue pages). [4] – t_a maximum value is different at 220-240 V and 110-127 V (see labels). [5] – t_c value is 90 °C at 220-240 V, 30 W; 80 °C at 110-127 V, 15 W (see labels). [6] – The products have an overheating protection and comply with temperature limit of clause 4.16.2 of EN 60598-1:04 ("F" triangle marking), EN 60598-1:2014.