

# CERTIFICATE

Issued to:  
Applicant:  
**T C I Telecomunicazioni S.r.l.**  
**Via Parma 14**  
**21047 Saronno (VA) - ITALY**

Manufacturer/Licensee:  
**T C I Telecomunicazioni S.r.l.**  
**Via Parma 14**  
**21047 Saronno (VA) - ITALY**

Product(s) : Electronic controlgear for LED modules  
Trade name(s) : TCI or TN101  
Type(s)/model(s) : STC (series), STM (series), KU2 (series), BULL (series), MR (series), STF (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 61347-1:2015; 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 KEMA-KEUR certification mark.

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

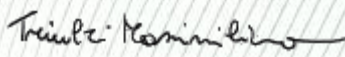
This certificate is issued on: March 16, 2017 and expires upon withdrawal of one of the above mentioned standards.

Certificate number: 2102475.02

DEKRA Certification B.V.



drs. G.J. Zoetbrood  
Managing Director



Massimiliano Triulzi  
Certification Manager

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ACCREDITED BY  
THE DUTCH COUNCIL  
FOR ACCREDITATION



General product information: The devices are controlgears for LED modules with SELV output. The devices have a stabilized output current or voltage.											
Type/s	Primary voltage [1]	Primary Current [A]	Power Factor	Sec.Power [W]	Sec. Parameter	Uout or Vo max [V]	t <sub>a</sub> [°C]	t <sub>c</sub> [°C]	Thermal Protection	Class (IP grade)	Classification
DC 6W 150mA BULL or K2848	220-240 V (50/60 Hz)	0,1	0,45-0,5 C [2]	6	150 mA	50	-25..45	75	100 °C [4]	-	Independent
BULL6.150OF or K2849		0,045 [1]					-	80 [3]		-	Integral
DC 9W 250mA BULL or K2680	220-240 V (50/60 Hz)	0,1	0,58 C [2]	9	250 mA	43	-25..45	75	100 °C [4]	-	Independent
BULL9.250OF or K2681		0,063 [1]					-	80 [3]		-	Integral
DC 4W 350mA BULL/U or K2173	100-240 V (50/60 Hz)	0,1	0,45-0,6 C [2]	4	350 mA	12,7	-25..60	75	100 °C [4]	-	Independent
BULL4.350OF or K2174		0,031 [1]					-	80 [3]		-	Integral
DC 8W 350mA BULL/U or K2177	100-240 V (50/60 Hz)	0,17	0,45-0,6 C [2]	6/8*	350 mA	25	-25..45*/50	75	100 °C [4]	-	Independent
BULL8.350OF or K2178		0,055 [1]					-	80 [3]		-	Integral
DC 6W 500mA BULL/U or K2210	100-240 V (50/60 Hz)	0,14	0,45-0,6 C [2]	6	500 mA	12,7	-25..50	75	100 °C [4]	-	Independent
BULL6.500OF or K2175		0,044 [1]					-	80 [3]		-	Integral
DC 6W 250mA STC/U or K2176	100-240 V (50/60 Hz)	0,12	0,47-0,55 C [2]	6	250 mA	26	-25..55	75	100 °C [4]	-	Buit-in
STC6.250OF or K2211		0,044 [1]					-	80 [3]		-	Integral
DC 8W 350mA STC/U or K2018	100-240 V (50/60 Hz)	0,15	0,47-0,55 C [2]	6-8*	350 mA	26	-25..50*/55	75	100 °C [4]	-	Buit-in
STC8.350OF or K2211		0,055 [1]					-	80 [3]		-	Integral
DC 8W 350mA STCP/U or K2880	100-240 V (50/60 Hz)	0,15	0,47-0,55 C [2]	8	350 mA	26	-25..50	80	100 °C [4]	-	Buit-in
DC 9W 350mA STC/U or K2846	100-240 V (50/60 Hz)	0,2	0,5-0,6 C [2]	6-9*	350 mA	30	-25..45*/55	85	100 °C [4]	-	Buit-in
STC9.350OF or K2847		0,06 [1]					-	80 [3]		-	Integral
DC 6W 500mA STC/U or K2019	100-240 V (50/60 Hz)	0,15	0,47-0,55 C [2]	6	500 mA	13	-25..45	70	100 °C [4]	-	Buit-in
STC6.500OF or K2213		0,044 [1]					-	80 [3]		-	Integral
DC 6W 1200mA STC/U or K2557	220-240 V (50/60 Hz)	0,065	0,6 C [2]	6	1200 mA	7	-25..50	70	100 °C [4]	-	Buit-in
STC6.1200OF or K2685		0,044 [1]					-	80 [3]		-	Integral
DC 3W 125mA STM/U or K2852	100-240 V (50/60 Hz)	0,1	0,43-0,6 C [2]	3	125 mA	25	-25..60	75	100 °C [4]	-	Buit-in
STM3.125OF or K2853		0,025 [1]					-	80 [3]		-	Integral
DC 6W 150mA STM/U or K2850	100-240 V (50/60 Hz)	0,15	0,48-0,6 C [2]	6	150 mA	44	-25..55	75	100 °C [4]	-	Buit-in
STM6.150OF or K2851		0,044 [1]					-	80 [3]		-	Integral
DC 6W 250mA STM/U or K2208	100-240 V (50/60 Hz)	0,12	0,47-0,6 C [2]	6	250 mA	25,2	-25..60	80	100 °C [4]	-	Buit-in
STM6.250OF or K2214		0,044 [1]					-	80 [3]		-	Integral
DC 8W 350mA STM/U or K2209	100-240 V (50/60 Hz)	0,15	0,47-0,6 C [2]	6/8*	350 mA	25,2	-25..55*/60	80	100 °C [4]	-	Buit-in
STM8.350OF or K2215		0,055 [1]					-	80 [3]		-	Integral
DC 6W 500mA STM/U or K2048	100-240 V (50/60 Hz)	0,15	0,47-0,6 C [2]	6	500 mA	12,6	-25..55	75	100 °C [4]	-	Buit-in
STM6.500OF or K2216		0,044 [1]					-	80 [3]		-	Integral

Notes: [1], [2], [4] as following table. [3] – The t<sub>c</sub> position is on the top of C<sub>2</sub> capacitor or C<sub>3</sub> (for 1200mA model).

Type/s	Primary voltage [1]	Primary Current [A]	Power Factor	Sec.Power [W]	Sec. Parameter	no load Vo max [V]	t <sub>a</sub> [°C]	t <sub>c</sub> [°C]	Thermal Protection	Class (IP grade)	Classification
DC 6W 700mA STM/U or K2049 STM6.700OF or K2217	100-240 V (50/60 Hz)	0,15	0,47-0,6 C [2]	6	700 mA	12,6	-25..50	70	100 °C [4]	-	Buit-in
		0,044 [1]					-	80 [3]	-	-	Integral
DC 10W 350mA KU2 or K2559 DC 10W 350mA KU2 BI or K2694 KU2.10.350OF or K2695	110-240 V (50/60 Hz)	0,12-0,2*	0,46-0,62 C [2]	5-10*	350 mA	32	-25..50*/60	80	100 °C [4]	II (IP20)	independent
		0,075 [1]					-25..50*/60	80	100 °C [4]	-	Buit-in
DC 7W 350mA KU2 or K2883 DC 7W 350mA KU2 BI or K2884 KU2.7.350OF or K2885	110-240 V (50/60 Hz)	0,16	0,46-0,6 C [2]	7	350 mA	32	-25..55	80	100 °C [4]	II (IP20)	independent
		0,06 [1]					-25..55	80	100 °C [4]	-	Buit-in
DC 5W 350mA KU2 or K2560 DC 5W 350mA KU2 BI or K2696 KU2.5.350OF or K2697	110-240 V (50/60 Hz)	0,12	0,46-0,58 C [2]	5	350 mA	32	-25..60	80	100 °C [4]	II (IP20)	independent
		0,04 [1]					-25..60	80	100 °C [4]	-	Buit-in
DC 10W 700mA KU2 or K2464 DC 10W 700mA KU2 BI or K2465 KU2.10.700OF or K2466	110-240 V (50/60 Hz)	0,12-0,2*	0,46-0,62 C [2]	5-10*	700 mA	17	-25..50*/60	80	100 °C [4]	II (IP20)	independent
		0,075 [1]					-25..50*/60	80	100 °C [4]	-	Buit-in
DC 5W 700mA KU2 or K2558 DC 5W 700mA KU2 BI or K2698 KU2.5.700OF or K2699	110-240 V (50/60 Hz)	0,12	0,46-0,58 C [2]	5	700 mA	17	-25..60	80	100 °C [4]	II (IP20)	independent
		0,04 [1]					-25..60	80	100 °C [4]	-	Buit-in
DC 3W 250mA STF/U or K2854 STF3.250OF or K2855	100-240 V (50/60 Hz)	0,11	0,47-0,6 C [2]	3	250 mA	15	-25..45	80	100 °C [4]	-	Buit-in
		0,035 [1]					-	80 [3]	-	-	Integral
DC 4W 350mA STF/U or K2856 STF4.350OF or K2857	100-240 V (50/60 Hz)	0,15	0,48-0,6 C [2]	4	350 mA	15	-25..45	80	100 °C [4]	-	Buit-in
		0,05 [1]					-	80 [3]	-	-	Integral

Notes: [1] – The KU2 models were tested also in 170-280 V d.c. operational range according to IEC 61347-2-13:2014 and they can be used for centralized emergency installations (EN 50171 and EN 50172) in the rated 189-250 V; the other models were tested also in 176-264 V d.c. operational range according to IEC 61347-2-13:2014 and they can be used for centralized emergency installations (EN 50171 and EN 50172) in the rated 196-240 V; Idc max in the label. [2] – Value at rated Po. [3] – The t<sub>c</sub> position is on the top of C<sub>2</sub>. [4] – The products have an overheating protection (C.5.a type) and comply with temperature limit of clause 4.16.2 of IEC 60598-1:03 ("F" triangle marking), IEC 60598-1:2014, VDE 0710 T14 ("MM" triangle marking).



Type/s	Primary voltage [1]	Primary Current [A]	Power Factor	Sec.Power [W]	Sec. Parameter	no load Vo max [V]	t <sub>a</sub> [°C]	t <sub>c</sub> [°C]	Thermal Protection	Class (IP grade)	Classification
DC 10W 12V KU2 or K2561	110-240 V (50/60 Hz)	0,12-0,2* 0,07 [1]	0,46-0,62 C (P>3 W)	5-10*	12 V	-	-25..50*/60	80	100 °C [4]	II (IP20)	independent
-25..50*/60							80	100 °C [4]	-	Buit-in	
-							80 [3]	-	-	Integral	
DC 5W 12V KU2 or K2562	110-240 V (50/60 Hz)	0,12 0,04 [1]	0,46-0,58 C (P>3 W)	5	12 V	-	-25..60	80	100 °C [4]	II (IP20)	independent
-25..60							80	100 °C [4]	-	Buit-in	
-							80 [3]	-	-	Integral	
DC 10W 24V KU2 or K2563	110-240 V (50/60 Hz)	0,12-0,2* 0,07 [1]	0,46-0,62 C (P>3 W)	5-10*	24 V	-	-25..50*/60	80	100 °C [4]	II (IP20)	independent
-25..50*/60							80	100 °C [4]	-	Buit-in	
-							80 [3]	-	-	Integral	
DC 5W 24V KU2 or K2564	110-240 V (50/60 Hz)	0,12 0,04 [1]	0,46-0,58 C (P>3 W)	5	24 V	-	-25..60	80	100 °C [4]	II (IP20)	independent
-25..60							80	100 °C [4]	-	Buit-in	
-							80 [3]	-	-	Integral	
DC 12W 12V MR or K2682	220-240 V (50/60 Hz)	0,12 0,08 [1]	0,55 C	12	12 V	-	-25..50	75	100 °C [4]	II (IP20)	independent
-25..50							75	100 °C [4]	-	Buit-in	
-							80 [3]	-	-	Integral	

Notes: [1] – The KU2 models were tested also in 170-280 V d.c. operational range according to IEC 61347-2-13:2014 and they can be used for centralized emergency installations (EN 50171 and EN 50172) in the rated 189-250 V; the other models were tested also in 176-264 V d.c. operational range according to IEC 61347-2-13:2014 and they can be used for centralized emergency installations (EN 50171 and EN 50172) in the rated 196-240 V; I<sub>dc</sub> max in the label. [2] – Value at rated P<sub>o</sub>. [3] – The t<sub>c</sub> position is on the top of C<sub>2</sub> or C<sub>7</sub> (for MR models) capacitor. [4] – The products have an overheating protection (C.5.a type) and comply with temperature limit of clause 4.16.2 of IEC 60598-1:03 ("F" triangle marking), IEC 60598-1:2014, VDE 0710 T14 ("MM" triangle marking).

<b>Common parameters for all models</b>			
Supply (PRI)	Tails (0,5 mm <sup>2</sup> ) STCP/U model; tails (AWG 18, 0,83 mm <sup>2</sup> ) for STF models; screw terminals (max. 2,5 mm <sup>2</sup> ) for all other models.		
Load (SEC)	Tails (0,5 mm <sup>2</sup> ) STCP/U model; tails (AWG 22, 0,34 mm <sup>2</sup> ) for STF models; screw terminals (max. 2,5 mm <sup>2</sup> ) for all other models.		
<b>Additional information</b>			
All models with the enclosure fulfil the requirements for: AC/DC P/S for LED; multiple value load control gear; stabilized output current or voltage; short-circuit proof type; impulse withstand category II; Pollution degree 2 (Normal Pollution); Material group IIIa; the material of enclosure was tested with favourable result for Glow-wire at temperature 750-960 °C.			
<b>INSULATION</b>	PRI	SEC	
PRI	-	double	
SEC	double	-	
OF models do not have their own enclosure and are composed of printed circuit boards and electrical components, and shall comply with the requirements of IEC 60598-1 when built into a different luminaire (housing of built-in or independent model). In the final application the connections of external wiring shall be according to IEC 60598-1 or national deviations of the country where installed. Creepage distances and clearances for built-in and OF models shall comply with the requirements of IEC/EN 60598-1 when the device is installed in the final application:			
<b>MODELS:</b>	<b>INSULATION:</b>	<b>Between active parts and the bottom surface of enclosure</b>	<b>Between active parts and external side of enclosure</b>
DC 6W 150mA BULL, DC 9W 250mA BULL, DC 4W 350mA BULL/U, DC 8W 350mA BULL/U, DC 6W 500mA BULL/U, DC 10W 700mA KU2, DC 5W 700mA KU2, DC 10W 350mA KU2, DC 7W 350mA KU2, DC 5W 350mA KU2, DC 10W 12V KU2, DC 5W 12V KU2, DC 10W 24V KU2, DC 5W 24V KU2, DC 12W 12V MR		double	double
DC 6W 250mA STC/U, DC 8W 350mA STC/U, DC 9W 350mA STC/U, DC 6W 500mA STC/U, DC 6W 1200mA STC/U, DC 3W 125mA STM/U, DC 6W 150mA STM/U, DC 6W 250mA STM/U, DC 8W 350mA STM/U, DC 6W 500mA STM/U, DC 6W 700mA STM/U, DC 10W 700mA KU2 BI, DC 5W 700mA KU2 BI, DC 10W 350mA KU2 BI, DC 7W 350mA KU2 BI, DC 5W 350mA KU2 BI, DC 10W 12V KU2 BI, DC 5W 12V KU2 BI, DC 10W 24V KU2 BI, DC 5W 24V KU2 BI, DC 12W 12V MR BI, DC 3W 250mA STF/U, DC 4W 350mA STF/U, DC 8W 350mA STCP/U		double	-
BULL6.150OF, BULL9.250OF, BULL4.350OF, BULL8.350OF, BULL6.500OF, STC6.250OF, STC8.350OF, STC9.350OF, STC6.500OF, STC6.1200OF, STM3.125OF, STM6.150OF, STM6.250OF, STM8.350OF, STM6.500OF, STM6.700OF, KU2.10.700OF, KU2.5.700OF, KU2.10.350OF, KU2.7.350OF, KU2.5.350OF, KU2.10.12OF, KU2.5.12OF, KU2.10.24OF, KU2.5.24OF, MR12.12OF, STF3.250OF, STF4.350OF		-	-

**TESTS****Test requirements**

EN 61347-2-13:2014; EN 61347-1:2015; EN 62384:2006+A1:2009

**Test result**

The test results are laid down in DEKRA test reports No.2102510.50 and No.2102510.60


**Remarks**

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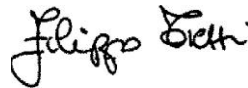
**Conclusions**

The examination proved that all test requirements were met.

Tested by : Massimo Banchelli



Checked by : Filippo Tiezzi

**Factory-Location**TCI Telecomunicazioni Italia S.r.l.  
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I-21047 Saronno (VA)