




# fulham® **RACEHORSE™**

**230V** | Electronic Ballasts  
Elektronische Vorschaltgeräte  
Alimentatori Elettronici



 **fulham®** Trusted worldwide for cost efficient lighting solutions.

# CERTIFICATIONS



## **ENEC, VDE**

The ENEC mark is given only to the manufacturer who has a quality system in accordance with the actual standards. Fulham RaceHorse ballasts are ENEC and VDE tested and certified by the VDE, Offenbach in Germany.

Das ENEC-Zeichen kann nur dem Hersteller erteilt werden, der über ein Qualitätssicherheits-System nach den aktuell geltenden Normen verfügt. Fulham RaceHorse EVGs wurden ENEC und VDE getestet und zertifiziert vom VDE in Offenbach, Deutschland.

Il marchio ENEC può essere rilasciato solo al costruttore che dispone di un sistema di qualità in conformità alle norme attuali. Gli alimentatori elettronici RaceHorse di Fulham sono approvati ENEC e VDE dal VDE a Offenbach in Germania.



## **EMV**

For the RaceHorse 230V electronic ballasts the emission, harmonics and immunity requirements are applicable.

Für die RaceHorse 230V elektronischen Vorschaltgeräte sind die Anforderungen an Störaussendungen, Oberschwingungen und Störfestigkeit gültig.

Per gli alimentatori elettronici RaceHorse 230V sono applicabili i requisiti delle emissioni, delle armoniche e delle immunità.



## **CE, RoHS**

All Fulham RaceHorse ballasts to be used in the European Markets are CE-marked and RoHS compliant.

Alle in Europa eingesetzten Fulham RaceHorse Vorschaltgeräte sind CE gekennzeichnet und RoHS kompatibel.

Tutti gli alimentatori RaceHorse di Fulham per l'uso nel mercato europeo riportano la marcatura CE e sono RoHS compatibili.

## **RaceHorse Article Number System**

RHS-230-249-L-T5 = RaceHorse Standard, 230V, 2x49W, Long Case, T5-Lamps (T16)

RHS	= RaceHorse Standard (non-dimmable)
RHD	= RaceHorse Dimmable (1-10V)
230	= Input Voltage 220V~240V, 50~60 Hz
249	= 2 x 49W
L	= Long Case, Langes Gehäuse, Contenitore Lungo
C	= Compact Case, Kompaktes Gehäuse, Contenitore Compatto
CFL	= Compact Fluorescent Lamps (TC-DEL, TC-TEL, TC-L, TC-SEL)
T5	= T5 Lamps (T16)
T8	= T8 Lamps (T26)

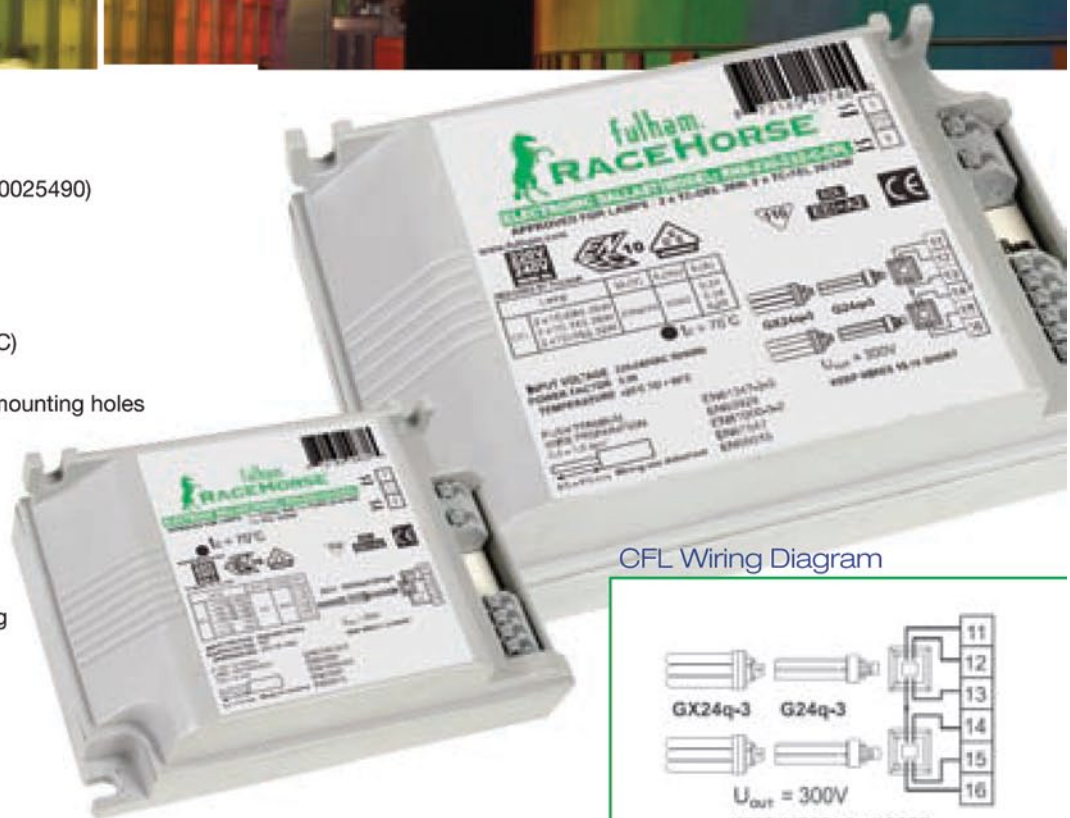


## Features

- According to all CE requirements
- ENEC / VDE certified (VDE Cert: 40025490)
- Pre-Heat Lamp Start
- Cut-Off Technology
- End-Of-Life Protection (EOL)
- High Power Factor
- Active Power Factor Control (APFC)
- Auto-Restart
- Standard distances between the mounting holes
- Solid Housing and Electronics

## Applications

- Decorative Lighting
- Indoor Architectural Lighting
- Outdoor Architectural Lighting
- Industrial and Commercial Lighting
- Wall Washing and Flood Lighting



CFL Wiring Diagram

## CFL Lamp Operation

Case Size 1 (L/W/H in mm): 103 x 67 x 31  
Case Size 2 (L/W/H in mm): 123 x 79 x 31

BALLASTS	CASE SIZE	TC-DEL (Quad)				TC-TEL (Triple)					TC-L (Twin Hi-Lumen)		TC-SEL (Twin)		
		10W	13W	18W	26W	13W	18W	26W	32W	42W	18W	21W	9W	11W	
RHS-230-113-C-CFL	1	1	1			1								1	1
RHS-230-118-C-CFL	1			1			1								
RHS-230-142-C-CFL	1				1			1	1	1	1	1			
RHS-230-213-C-CFL	2	2	2			2								2	2
RHS-230-218-C-CFL	2			2			2								
RHS-230-232-C-CFL	2				2			2	2						

## Specifications CFL

Input Voltage: (V)	220 - 240 (±10%)	Automatic restart after lamp change	Yes
Power Line Frequency (Hz)	50/60	Cut-Off Technology	Yes
Overvoltage Consistency (V AC, 1h)	320	End-Of-Life Protection (EOL)	Yes
Power Factor - APFC (λ)	≥0.96	Case Material	Thermoplast
Line Current Harmonics (%)	<10	Immunity	EN 61547
Lamp Operating Frequency (Hz)	>40,000	Harmonic Content	EN 61000-3-2
Pre-Heat Lamp Start (Seconds)	≤1.5	Radio Interference Suppression	EN 55015
Max. Case Hot Spot Temperature Tc (°C)	70	ENEC, VDE, CE	EN 60929:2006-03
Ambient Temperature (°C)	-25 to +60		EN 61347-1:2001+A1
Expected Service Life at Ta max. (h)	50,000		EN 61347-2-3: +A1+A2

Detailed Specifications on Demand

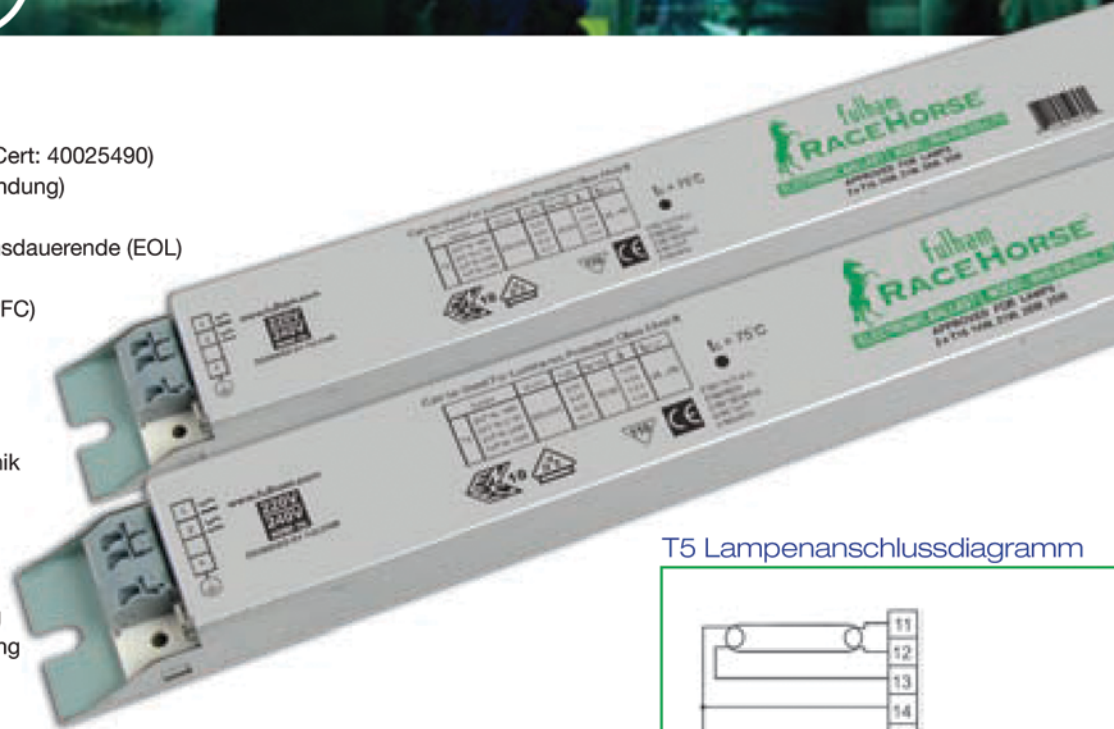


### Produkteigenschaften

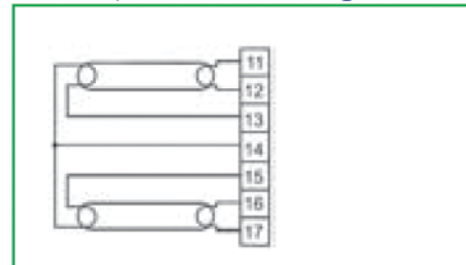
- CE Konformität
- ENEC / VDE zertifiziert (VDE Cert: 40025490)
- Lampenwarmstart (Vorheizzündung)
- Cut-Off Technologie
- Schutz gegen Lampen-Lebensdauerende (EOL)
- Hoher Leistungsfaktor
- Leistungsfaktorsteuerung (APFC)
- Automatischer Wiederstart nach Lampenwechsel
- Standardabstände zwischen den Befestigungslöchern
- Solide Bauweise und Elektronik
- Superflach

### Anwendungen

- Dekorative Beleuchtung
- Innen-Architekturbeleuchtung
- Außen-Architekturbeleuchtung
- Industrie- und Einzelhandelsbeleuchtung
- Wallwashing und Flutbeleuchtung



T5 Lampenanschlussdiagramm



## T5 Lampenmatrix

Gehäuse 1 (L/B/H in mm): 280 x 30 x 21  
 Gehäuse 2 (L/B/H in mm): 360 x 30 x 21

ELEKTRONISCHE VORSCHALTGERÄTE	GEHÄUSE	T16 (T5)							TC-L (Twin-Hi-Lumen)
		14W	21W	28W	35W	49W	54W	80W	55W
RHS-230-135-L-T5	1	1	1	1	1				
RHS-230-149-L-T5	1					1			
RHS-230-154-L-T5	1						1		
RHD-230-154-L-T5*	1						1		
RHS-230-180-L-T5	2							1	1
RHS-230-235-L-T5	2	2	2	2	2				
RHS-230-414-L-T5	2	3/4							
RHS-230-249-L-T5	2					2			
RHS-230-254-L-T5	2						2		

\*RaceHorse 230V Dimmable

## Spezifikationen T5

Netzeingangsspannung (V)	220 - 240 (±10%)	Autom. Wiederstart nach Lampenwechsel	Ja
Netzfrequenz (Hz)	50/60	Cut-Off Technologie	Ja
Überspannungsfestigkeit (V AC, 1h)	320	Schutz gegen Lampen-Lebensdauerende (EOL)	Ja
Leistungsfaktor – APFC (λ)	≥0.96	Gehäusematerial	Metall
Gesamte harmonische Verzerrung (%)	<10	Immunität	EN 61547
Lampenbetriebsfrequenz (Hz)	>40,000	Stromaufnahme	EN 61000-3-2
Lampenwarmstart (Sekunden)	≤1.5	Störaussendung	EN 55015
Tc max. Punkt Temperatur (°C)	70	ENEC, VDE, CE	EN 60929:2006-03
Umgebungstemperatur RHS (°C)	-25 bis +50		EN 61347-1:2001+A1
Erwartete Lebensdauer bei Ta max. (h)	50,000		EN 61347-2-3:+A1+A2

Detaillierte Spezifikationen auf Anfrage

# T8

## Caratteristiche dei prodotti

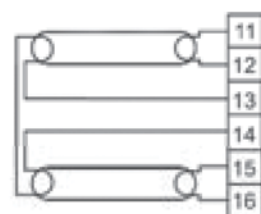
- CE conformi
- Certificati ENEC / VDE (VDE Cert: 40025490)
- Preriscaldamento dei catodi
- Tecnologia Cut-Off
- Protezione fine vita della lampada (EOL)
- Fattore di potenza alto
- Tecnologia APFC
- Riaccensione automatica dopo il cambio della lampadina
- Distanza standard tra i fori di fissaggio
- Costruzione solida e elettronica affidabile
- Costruzione extra piatta

## Campo di applicazione

- Illuminazione decorativa
- Illuminazione di interni
- Illuminazione da esterni
- Illuminazione industriale e commerciale
- Illuminazione verticale



T8 Schema di Collegamento



## T8 Lampade e Alimentatori

Contenitore 1 (L/LA in mm): 280 x 30 x 21  
 Contenitore 2 (L/LA in mm): 360 x 30 x 21

ALIMENTATORI	CONTENITORE	T26 (T8)			TC-L (Twin Hi-Lumen)			
		18W	36W	58W	18W	24W	36W	40W
RHS-230-118-L-T8	1	1			1			
RHS-230-136-L-T8	1		1			1	1	1
RHS-230-158-L-T8	1			1				
RHS-230-218-L-T8	1	2						
RHS-230-236-L-T8	1		2		2		2	
RHS-230-258-L-T8	1			2				

## Caratteristiche dei Prodotti T8

Tensione nominale (V)	220 - 240 ( $\pm 10\%$ )	Riaccensione automatica della lampada	Si
Frequenza di rete (Hz)	50/60	Tecnologia Cut-Off	Si
Resistenza a elevata tensione (V Ac, 1h)	320	Protezione fine vita della lampada (EOL)	Si
Fattore di potenza – APFC ( $\lambda$ )	$\geq 0.96$	Materiale contenitore	Metallico
Fattore de distorsione (%)	$< 10$	Immunità	EN 61547
Frequenza (Hz)	$> 40,000$	Assorbimento corrente	EN 61000-3-2
Preriscaldamento di catodi (Seconds)	$\leq 1.5$	Emissioni	EN 55015
Temperatura Tc max. ( $^{\circ}\text{C}$ )	70	ENEC, VDE, CE	EN 60929:2006-03
Temperatura ambiente ( $^{\circ}\text{C}$ )	da -25 a +50		EN 61347-1:2001+A1
Vita presunta con Ta max. (h)	50,000		EN 61347-2-3:+A1+A2

Chiarimenti dettagliati a richiesta



**fulham**®

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