VTF


Powertrain Systems


Chassis Systems


Safety


Security


Body


Driver Information


Convenience

Description

Features

- Combination turn signal and hazard warning signal flasher[1)]
- Lamp outage sensing. Double flash rate
- Meets all applicable U.S.A. safety standards
- Stable electronic timing
- VKP relay with PdCu contact for output
- Fits ISO 7588 socket
- Wide operating voltage and temperature range

Typical applications

Flasher and turn signals

1) Caution:
Three lamp combination flashers with three terminals do not meet U.S. Federal motor vehicle safety requirements when lamp outage occurs during hazard mode operation. For more information consult factory.

Please contact Tyco Electronics for relay application support.



VTF_3d01


Car Industry


Truck Industry


Other Industry

Design

Dustproof, plastic enclosure

Weight

Approx. 1.3 oz. (37 g)

Nominal voltage

12 V;
other nominal voltages available on request

Terminals

0.250 " (6.35 mm) quick connect terminals

Accessories

Connectors see page 192

Conditions

All parametric, environmental and endurance tests are performed according to EIA Standard RS-407-A at standard test conditions unless otherwise noted:
23 °C ambient temperature,
20-50% RH, 29.5 ± 1.0" Hg
998.9 ±33.9 hPa).
Please also refer to the Application Recommendations in this catalog for general precautions.

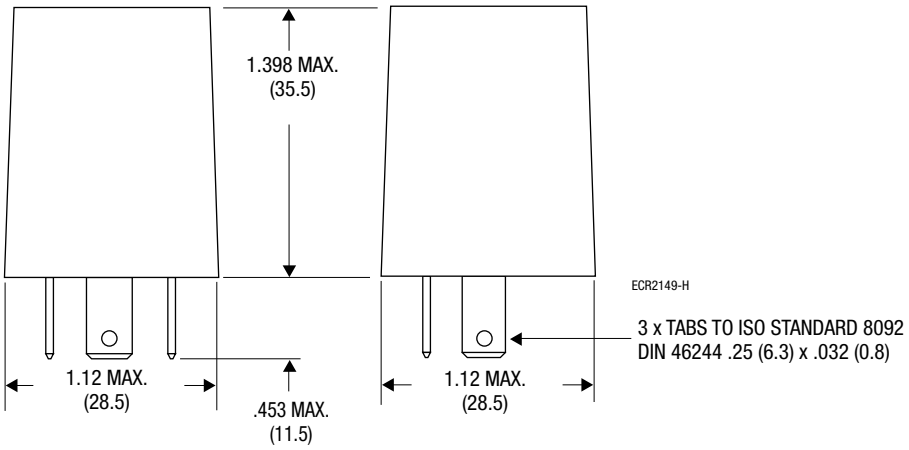
OBSOLETE
NOT the LATEST
REVISION

Disclaimer

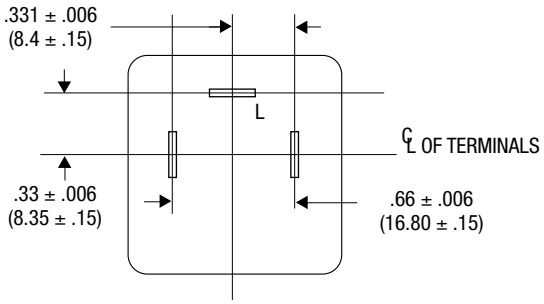
All technical performance data apply to the relay as such, specific conditions of the individual application are not considered. Please always check the suitability of the relay for your intended purpose. We do not assume any responsibility or liability for not complying herewith. We recommend to complete our questionnaire and to request our technical service. Any responsibility for the application of the product remains with the customer only. All specifications are subject to change without notification. All rights of Tyco are reserved.

VTF

Dimensional drawing



View of the terminals (Bottom view)



Please observe the disclaimer.

VTF

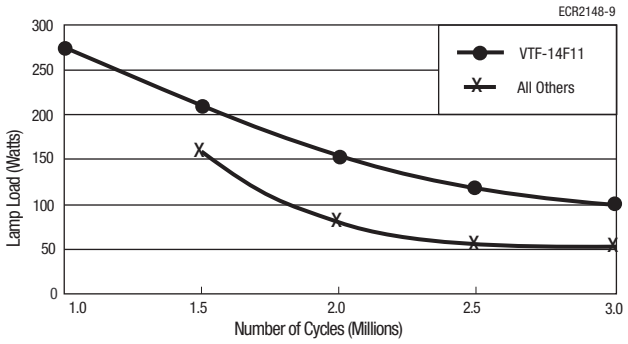
Contact data: load requirements at 12.8 V

Loads		European 2 Lamp system	European 3 Lamp system	U.S.A. 2 Lamp system	U.S.A. 3 Lamp system	U.S.A. 5 Lamp system
Turn signal mode:	Rated loads	2 x 21 W + 1 x 5 W + 1 x 1.2 W	3 x 21 W + 1 x 5 W + 1 x 1.2 W	2 x 27 W + 1 x 3.5 W + 1 x 1.3 W	3 x 27 W + 1 x 3.5 W + 1 x 1.3 W	5 x 27 W + 1 x 3.5 W + 1 x 1.3 W
	Outage loads	1 x 21 W + 1 x 5 W + 1 x 1.2 W	2 x 21 W + 1 x 5 W + 1 x 1.2 W	1 x 27 W + 1 x 3.5 W + 1 x 1.3 W	2 x 27 W + 1 x 3.5 W + 1 x 1.3 W	Not applicable
Hazard mode:	Rated loads	4 x 21 W + 2 x 5 W + 2 x 1.2 W	6 x 21 W + 2 x 5 W + 2 x 1.2 W	4 x 27 W + 2 x 3.5 W + 2 x 1.3 W	6 x 27 W + 2 x 3.5 W + 2 x 1.3 W	10 x 27 W + 2 x 3.5 W + 2 x 1.3 W

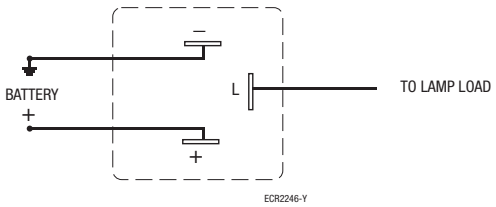
Flash rate and duty cycle data

Turn signal mode:	Normal signal	
	FPM	70 – 100
	Duty cycle	35 – 55%
	Outage signal	
	% Increase	80 – 200
	Duty cycle	35 – 55 %
Hazard mode:	Normal signal	
	FPM	70 – 110
	Duty cycle	35 – 55 %

Electrical contact life vs. load power



Pin assignment



Please observe the disclaimer.

VTF

Coil data	
Available for nominal voltages	12 V (other coils on request)
Operating voltage range	9 – 16 V
Device voltage drop	< 0.4 V at rated turn signal load < 0.45 V at rated hazard signal load
Initial turn-on time	≤ 50 ms
Start time	< 1 s per FMVSS 108
Sound pressure level	Min. 72 dBA at 1.0 m[1)]
Maximum ambient temperature range[2)]	– 40 to + 85 °C

[1)] The actual sound pressure is highly dependend on mounting method used.
[2)] See also operating voltage diagram
N.B.
A low resistive device in parallel to the relay coil slows the armature movement down
and reduces the lifetime caused by increased erosion and/or higher risk of contact tack welding.

Mechanical data	
Cover retention	
Axial force	150 N (33.7 lbs)
Pull force	220 N (50 lbs)
Push force	220 N (50 lbs)
Terminals	
Pull force	100 N (22.5 lbs)
Push force	100 N (22.5 lbs)
Enclosures	
Dust cover	Protects relay from dust. For use in passenger compartment or enclosures

Operating conditions				
Temperature range, storage	Refer to *Storage* in the "Glossary"			
Test	Relevant standard	Testing as per	Dimension	Comments
Vibration resistance	1.27 mm double amplitude 5 g contant 0.5 mm double amplitude 10 g constant		10 - 40 Hz 40 - 70 Hz 70 - 100 Hz 100 - 500 Hz	No change in the switching state > 1 ms
Shock resistance	Half sine wave pulse		10 ms 20 g	No change in the switching state > 1 ms
Drop test	Capable of meeting specifications after 1.0 m (3.28 foot) drop onto concrete			
Flammability	UL94-HB or better (meets FMVSS 302)			

Ordering information

Part numbers (see table below for coil data)		Meets the safety standard of		Flasher type			Turn signal mode			Max. number of lamps			Lamp outage sensing	
										Hazard	Tailoring			
Relay part number	Tyco order number	U.S.A.	European signal	Turn	Turn/Hazard warning	Hazard	2 Lamp system	3 Lamp system	5 Lamp system		Normal	Special	Yes	No
VTF-11F21	Not established	X		X			X				3	5	X	
VTF-11F31	5-1419084-9	X		X				X			4	7	X	
VTF-12F21	1393317-3	X			X		X			4	6		X	
VTF-13F21	Not established	X				X	X			4	6			X
VTF-21F21	Not established		X	X			X				3		X	
VTF-21F31	Not established		X	X				X			4		X	
VTF-22F21	6-1419084-0		X		X		X			4	6		X	
VTF-22F31	6-1419084-1		X		X			X		6			X	
VTF-14F11	1-1393317-3	X			X				X	10				X

Standard delivery pack (orders in multiples of delivery pack)

VTF: 400 pieces

Please observe the disclaimer.