



> Automotive Relays

High quality and safe.

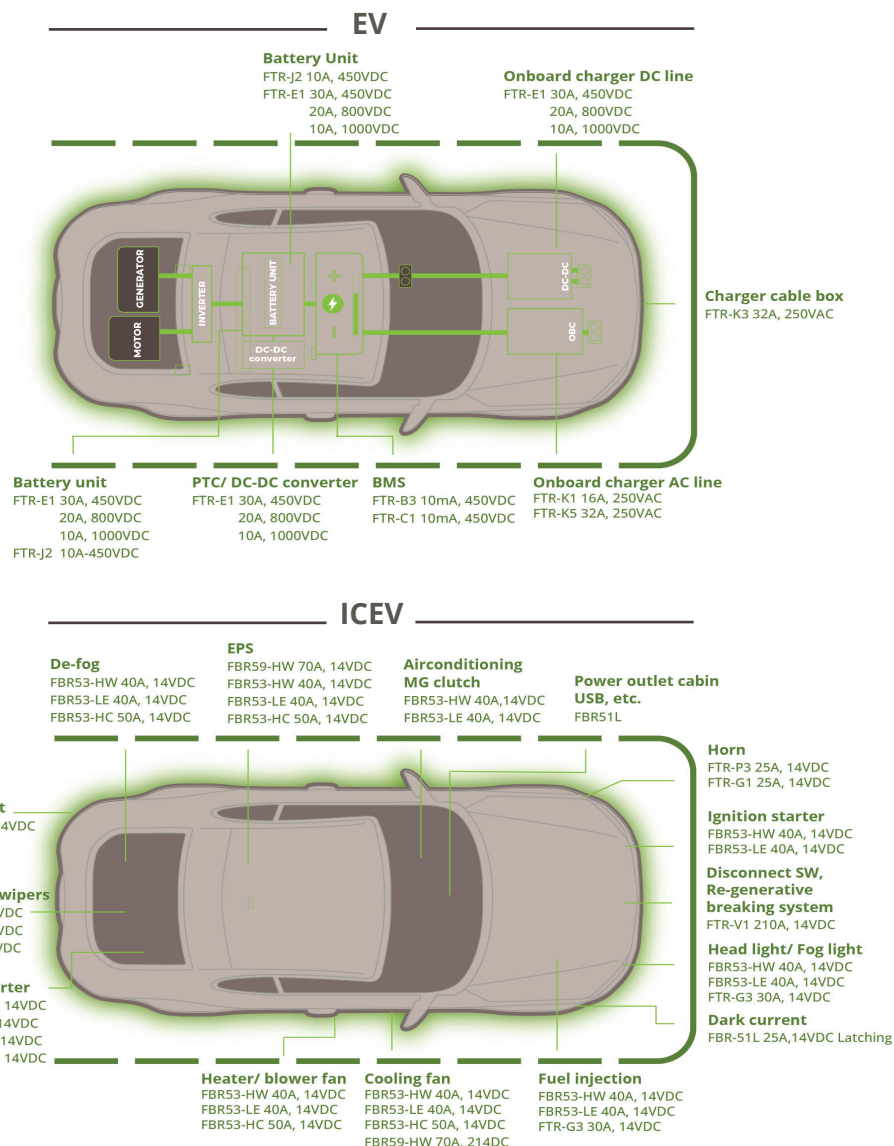
FCL Components' relays for safe and reliable mobility

As a technology-driven Japanese enterprise, FCL Components specializes in the development of automotive, signal, and power relays used in a variety of applications globally. FCL Components is committed to designing and manufacturing innovative, sustainable relay products that meet the highest quality standards.

Our product range includes high-performance PCB relays tailored for the automotive industry, such as on-board battery chargers for electric and plug-in hybrid vehicles (EV/PHV).

Our cutting-edge PCB relays address 12V and 24Vdc requirements with switching capacities up to 210A, as well as DC high-voltage contactor relays for battery management.

FCL Components proudly supplies its products to globally recognized Tier 1 and Tier 2 automotive manufacturers and suppliers. Combining over 100 years of experience, new innovations and technology has resulted in a portfolio dedicated to automotive applications.





> Product portfolio relays for Junction Boxes, Power Distribution Units and General Vehicle Applications

Relay Type	FTR-P3	FTR-P3 (24V)	FTR-G1	FTR-G3	FTR-P7	FBR53-HW
						
Contact rating	25A, 14VDC, locked motor load	6A, 28VDC, resistive load	25A, 14VDC, locked motor load	30A, 14VDC, locked motor load	25A, 14VDC, locked motor load	40A, 14VDC, resistive load
Contact form	1c (THR: 1a, 1c)	1c	1c	1a, 1c	1c	1 form U
Contact material	Silver-tin-oxide indium	Silver-tin-oxide indium	Silver-tin-oxide indium	Silver-tin-oxide indium	Silver-tin-oxide alloy	Silver-tin-oxide
Max. Carrying current	25A /1Hr	20A /1Hr	25A /1Hr	40.5A 30minutes	25A 1Hr	40A
Coil Voltage	9 to 12V	24V	9 to 12V	12V	12V	9 to 12V
Operating Temperature	-40 to +85°C/+125°C (no frost)	-40 to +125°C (no frost)	-40 to +85°C/+125°C (no frost)	-40 to +125°C (no frost)	-40 to +85°C (no frost)	-40 to +125°C
Nominal Coil Power	0.6 / 0.8 W	0.9 W	0.640 W	0.640 W	0.554 W	0.855 W to 0.862 W
Expected life on load example	14VDC, 25A, locked motor load 100 x 10 ³ ops.	6A, 28VDC, resistive load 100 x 10 ³ ops.	14VDC, 25A, locked motor load 100 x 10 ³ ops.	14VDC, 30A, locked motor load 100 x 10 ³ ops.	14VDC, 25A, locked motor load 100 x 10 ³ ops.	14VDC, 40A, resistive load 100 x 10 ³ ops.
Dielectric Strength	Open contacts: 500VAC Coil and contacts: 500VAC	Open contacts: 500VAC Coil and contacts: 500VAC	Open contacts: 500VAC, 1min Coil and contacts: 500VAC, 1min	Open contacts: 500VAC, 1min Coil and contacts: 500VAC, 1min	Open contacts: 500VAC Coil and contacts: 500VAC	Open contacts: 500VAC Coil and contacts: 500VAC
Dimensions WxLxH (mm)	7.2x17.4x13.5 (THR 7.2x17.4x14.1)	7.2x17.4x13.5 (THR 7.2x17.4x14.1)	6.6 x 13.7 x 13.5 (THR 6.6x13.7x14.0)	6.6 x 13.7 x 14	17.0 x 20.8 x 14.0	12.3 x 15.7 x 14.0
Mounting/Soldering	Through hole/ plastic sealed	Through hole/ plastic sealed	Through hole/ plastic sealed	Through hole/ plastic sealed	Through hole/ plastic sealed	Through hole/ plastic sealed

More information can be found on www.fcl-components.com/en



Suitable and reliable
in harsh environments



High quality and safe
operation



In-house developed technologies
to excel relay performance and
decrease dimensions



Designed in Japan



> Product portfolio relays for Junction Boxes, Power Distribution Units and General Vehicle Applications

Relay Type	FBR59-HW	FBR59-HW (24V)	FBR53-HC	FBR53-LE	FBR51 Latching	FTR-V1
						
Contact rating	45A/70A, 14VDC, locked motor/resistive load	30A 28VDC, resistive load	50A, 14VDC resistive load	40A, 14VDC resistive load	25A, 14VDC, locked motor load	Inrush: 230A 14VDC Break: 1A 14VDC
Contact form	1 form U	1 form U	1 form U	1 form U	1c	1b
Contact material	Silver-tin-oxide	Silver-tin-oxide	Silver-tin-oxide	Silver-tin-oxide	Silver-tin-oxide Indium / Silver Nikkel	Silver alloy
Max. Carrying current	70A 1Hr (@20°C)	70A 1 Hr (@20°C)	67.5A 14VDC / 30min (@20°C)	54A / 1 Hr (@20°C)	30A 1 hour (@25°C)	210A (@ 85°C, cable size 38mm²)
Coil Voltage	9 to 12V	12, 24V	12V	12V	10V	12V
Operating Temperature	-40 to +125°C (no frost)	-40 to +125°C (no frost)	-40 to +125°C (no frost)	-40 to +125°C	-40 to +125°C (no frost)	-40 to +125°C (no frost)
Nominal Coil Power	0.45 to 0.477 W	1.2 W	0.640 W	0.640 W	1.11 W	28.8 W
Expected life on load example	45A/70A, 14VDC, locked motor/resistive load 50 x 10³ops.(70A) 100 x 10³ops.(60A)	28VDC 20A resistive load 100 x 10³ops.	14VDC, 50A, resistive load 100 x 10³ops.	14VDC, 40A, resistive load 100 x 10³ops.	14VDC, 25A, locked motor load 200 x 10³ops. (-W1 type) / 50 x 10³ops.(-E type)	Inrush :230A 14VDC / Break:1A 14VDC 120 x 10³ops.
Dielectric Strength	Open contacts: 500VAC Coil and contacts: 500VAC	Open contacts: 500VAC Coil and contacts: 500VAC	Open contacts: 500VAC Coil and contacts: 500VAC	Open contacts: 500VAC Coil and contacts: 500VAC	Open contacts: 500VAC Coil and contacts: 500VAC	Open contacts: 500VAC Coil and contacts: 500VAC
Dimensions WxLxH (mm)	15.0 x 20.0 x 16.8	15.0 x 20.0 x 16.8	12.1 x 15.5 x 13.7	12.1 x 15.5 x 13.7	12.1 x 15.5 x 13.7	52.8 x 84.5 x 24.7
Mounting/Soldering	Through hole/ plastic sealed	Through hole/ plastic sealed	Through hole/ plastic sealed	Through hole/ plastic sealed	Through hole/ plastic sealed	Plastic sealed

More information can be found on www.fcl-components.com/en



Suitable and reliable
in harsh environments



High quality and safe
operation



In-house developed technologies
to excel relay performance and
decrease dimensions



Designed in Japan







Creating Customer Centric Technology.

www.fcl-components.com/en



> Product portfolio relays for onboard EV applications

Relay Type	FTR-K1 (-HT, 105 °C)	FTR-K5	FTR-E1	FTR-E1-HC
				
Contact rating	16A, 250VAC/24VDC resistive load	32A, 250VAC resistive load	20A/30A, 450VDC 10A, 1000VDC	60A 450VDC 10A, 1000VDC
Contact form	1a / 1c	1a	1a (1x)	1a (1x)
Contact material	Silver-tin-oxide	Silver alloy	Silver alloy	Silver alloy
Max. Carrying current	78A 250VAC (only make contact)	40A (@ 105°C, 8mm2 cable)	25A (@ 85°C, 5.5mm2 cable)	60A (@ 85°C, 14mm2 cable)
Coil Voltage	5-110V	5-24V	12, 24V	12, 24V
Operating Temperature	-40 to +105°C (no frost)	-40 to +105°C (no frost)	-40 to +85°C (no frost)	-40 to +85°C (no frost)
Nominal Coil Power	0.4 to 0.43mW	0.9 W	0.9 W	1.2 W
Expected life on load example	16A, 250VAC/24VDC resistive 100 x 10 ³ ops. (1 form A) 50 x 10 ³ ops. (1 form C)	Making 32A, breaking 32A, 250VAC, resistive 1,000 ops. (plastic seal) 30 x 10 ³ ops. (flux proof)	10A, 1000VDC 50 ops. 20A, 450VDC resistive 30A, 450VDC resistive 10 x 10 ³ ops. 5 x 10 ³ ops.	60A 400VDC 500 ops. 10A Inrush-60A-10A breaking, 1000VDC 10 ops.
Dielectric Strength	Open contacts: 1,000VAC Coil and contacts: 5,000VAC	Open contacts: 1,000VAC Coil and contacts: 5,000VAC	Open contacts: 2,500VAC Coil and contacts: 5,000VAC	Open contacts: 2,500VAC Coil and contacts: 5,000VAC
Dimensions WxLxH (mm)	12.7 x 29.0 x 15.7	18.0 x 30.5 x 29.7	28.3 x 43.6 x 36.8	28.3 x 43.6 x 26.8
Mounting/ Soldering	Through hole / flux proof	Through hole / plastic sealed or flux proof	Through hole / plastic sealed	Through hole / plastic sealed

More information can be found on www.fcl-components.com/en



FCL Components Relays

The contents, data and information in this datasheet are provided by FCL Components Limited as a service only to its user and only for general information purposes. The use of the contents, data and information provided in this datasheet is at the users' own risk. All trademarks or registered trademarks are the property of their respective owners. FCL Components Europe B.V. or its affiliates do not warrant that the content of this leaflet is error free. In a continuing effort to improve our products, FCL Components Europe B.V. or its affiliates reserve the right to make any changes without prior notice. Copyright ©2025. All rights reserved. Revised 06.02.2025



Creating Customer Centric Technology.

Contact

Japan
Email: fcl-contact@cs.fcl-components.com

Asia Pacific
Tel: (65) 6375-8560
Email: fcsl@fcl-components.com

North and South America
Tel: (1-408) 745-4900
Email: contact@fcl-components.us

China
Tel: (86 21) 3253 0998
Email: fcsh@fcl-components.com

Europe, Middle East, Africa
Tel: (31-23) 5560910
Email: info@fcl-components.eu

Hong Kong
Tel: (852) 2881 8495
Email: fcsl@fcl-components.com

www.fcl-components.com/en