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REBEL CT

Rebel CT Data Loggers

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Rebel CT Data Loggers- A complete solution

Influx **Rebel CT** range of robust and compact data loggers, ideally suitable for the most challenging engineering applications, can acquire data from multiple vehicle networks that includes CAN 2.0, CAN FD, LIN and FlexRay.
The **Rebel CT** range key advantages are their capability to support multiple automotive networks, advanced protocols, robust IP65 enclosure, support for high capacity SDXC data storage and their expandability.
The **Rebel CT** data loggers have been specifically designed to suit the demands of professional vehicle development engineers by supporting most automotive protocols J1939, ISO14229 (UDS), and ASAM CCP/xCP.
Upgradable to support advanced GNSS, 3D accelerometer and 3D Gyro, as well as 4G LTE CAT 1 to connect to the remote cloud server.

Typical Applications

- Fleet durability testing. (Robust IP65 applications)
- Summer and winter vehicle testing.
- R&D Engineering development and powertrain calibration.
- Pre-production quality assurance.
- After-market customer care. (Securely and discretely collecting data on customer vehicles)

Key features

Rebel CT range offers a complete data logging solution for vehicle network and sensor data.

- Robust and reliable collection of data from several sources, without user interaction, for prolonged periods.
- Easy setup with no need to write complex scripts.
- Configuration software provided for set up and analysis.
- Log data in seconds.
- No fans, hard drives or other mechanical rotating components.
- No operating system = no long boot up times.
- Very low current consumption in power down mode.
- WakeOnCAN function.
- Digital input/output channels.
- Logging on up to 7 CAN Bus channels

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Key Product Functions

Function	Description
Supported Protocols	OBD (CAN) ISO15765/ISO14229 (UDS) CCP, xCPOnCAN, xCPOnFlexRay CAN/CAN FD monitoring (raw CAN messages or signals via CAN DBC) LIN (raw LIN or signals via LIN LDF) J1939
CAN functions	Output CAN signals (applications include display units) Create user defined CAN messages for periodic transmission
Data storage format	FAT32 (PC readable)
Data logger configuration	Configuration via USB, Wi-Fi, 4G LTE CAT 1 and SD card
Trigger Condition	Up to 20 configurable conditions (>,< ,=, increment, decrement or on-change)
TrIgger Action	Up to 20 configurable triggers Functions include start or stop, sample one-shot data, sample DTC, read OBD data. Configurable pre and post trigger times Configurable LED functions
Wake up time	Wake up from normal sleep mode logging starts within 20mSec Wake up from power down mode, logging starts < 5 secs
Data Formats	Large quantities of recorded data can be conveniently converted to MDF, MDF4, MAT (Matlab), nCode, CSV by batch processing.

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REBEL CT4

Rebel CT4

P/N: INF2106

Key features

- 4x CAN 2.0 buses.
- 2x LIN buses.
- 3x digital I/O.
- 4x analogue input. (Each channel can be calibrated independently)
- Supports protocols CCP, xCPOnCAN, UDS (ISO14229), J1939.
- SDXC card data storage. (Maximum capacity 128GB)
- Galvanic isolation. (USB, enclosure)
- IP65 dust and splash proof cover – SD card securely housed behind a flip panel.
- Low power consumption in sleep mode and WakeOnCAN or wake up signal feature.

Options

- Internal GNSS module. (Up to 30Hz refresh rate, socket for external antenna)
- Internal 3D 1kHz accelerometer and 3D Gyro module.
- Internal 4G LTE CAT 1 module.
- Internal Wi-Fi module.
- Larger capacity data storage SDXC cards available. (Up to 128GByte)
- Dialog Standard is required for data analysis/live data.
- Dialog Plus is required for xCP/CCP or to connect to StreamLog.
- Dialog Gateway for configuring CAN 2.0 gateway functions.
- Extension cable to connect CAN 0/PWR to vehicle OBD Port. (9 Way D Sub to OBD)

Compact, Configurable 4 CAN 2.0 Data Logger

The Influx **Rebel CT 4** is a compact data logger with gateway functionality and is an ideal choice for engineering applications that require vehicle CAN 2.0 and LIN network data.

The **Rebel CT 4** can optionally be expanded to include high accuracy GNSS , 3D accelerometer, 3D Gyro, Wi-Fi and 4G LTE CAT 1.

Influx
REBEL CT CAN FD

Rebel CT CAN FD

P/N: INF2105

Compact, Configurable & CAN 2.0 and CAN FD Data Logger

The Influx **Rebel CT CAN FD** is a compact data logger with gateway functionality and is an ideal choice for applications that require vehicle CAN 2.0, CAN FD and LIN network data.

The **Rebel CT CAN FD** can optionally be expanded to include high accuracy GNSS , 3D accelerometer, 3D Gyro, Wi-Fi and 4G LTE CAT 1.

Key features

- 2x CAN 2.0 buses and 2x CAN FD buses.
- 2x LIN buses.
- 3x digital I/O.
- 4x analogue input. (Each channel can be calibrated independently)
- Supports protocols CCP, xCPOnCAN, UDS (ISO14229), CAN FD (ISO Standard or Non-ISO Standard), J1939.
- SDXC card data storage. (Maximum capacity 128GB)
- Galvanic isolation. (USB, enclosure)
- IP65 dust and splash proof cover – SD card securely housed behind a flip panel.
- Low power consumption in sleep mode and WakeOnCAN or wake up signal feature.

Options

- Internal GNSS module. (Up to 30Hz refresh rate, socket for external antenna)
- Internal 3D 1kHz accelerometer and 3D Gyro module.
- Internal 4G LTE CAT 1 module.
- Internal Wi-Fi module.
- Larger capacity data storage SDXC cards available. (Up to 128GByte)
- Dialog Standard is required for data analysis/live data.
- Dialog Plus is required for xCP/CCP or to connect to StreamLog.
- Dialog Gateway for configuring CAN 2.0 gateway functions.
- Extension cable to connect CAN 0/PWR to vehicle OBD Port. (9 Way D Sub to OBD)

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REBEL CT7

Rebel CT7

P/N: INF2107

The **Rebel CT 7** can optionally be expanded to include high accuracy GNSS, 3D accelerometer, 3D Gyro, Wi-Fi and 4G LTE CAT 1.

Key features

- 7x CAN 2.0 buses.
- 3x LIN buses.
- 3x digital I/O.
- 4x analogue input. (Each channel can be calibrated independently)
- 18Hz GNSS with 1 KHz xyz Accelerometer.
- Supports protocols CCP, xCPOnCAN, UDS (ISO14229), J1939.
- SDXC card data storage. (Maximum capacity 128GB)
- Galvanic isolation. (USB, enclosure)
- IP65 dust and splash proof cover – SD card securely housed behind a flip panel.
- Low power consumption in sleep mode and WakeOnCAN or wake up signal feature.

Options

- Internal GNSS module. (Up to 30Hz refresh rate, socket for external antenna)
- Internal 3D 1kHz accelerometer and 3D Gyro module.
- Internal 4G LTE CAT 1 module.
- Internal Wi-Fi module.
- Larger capacity data storage SDXC cards available. (Up to 128GByte)
- Extension cable to connect CAN 0/PWR to vehicle OBD Port. (9 Way D Sub to OBD)

Compact, Configurable 7 CAN Bus Data Logger

The Influx **Rebel CT 7** compact data logger is ideal for development applications that require up to 7 vehicle CAN 2.0 networks and additional LIN data.

The standard **Rebel CT 7** includes as standard an internal 18Hz GNSS module and a 3D accelerometer.

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REBEL CT FLEXRAY

Rebel CT FlexRay

P/N: INF2108

The **Rebel CT FlexRay** can optionally be expanded to include high accuracy GNSS, 3D accelerometer, 3D Gyro, Wi-Fi and 4G LTE CAT 1

Key features

- 7x CAN 2.0 buses.
- 2x LIN buses.
- 2x FlexRay channels.
- 3x digital I/O.
- 4x analogue input. (Each channel can be calibrated independently)
- 18Hz GNSS with 1 KHz xyz Accelerometer.
- Supports protocols CCP, xCPOnCAN and xCPOnFlexRay, UDS (ISO14229), J1939.
- SDXC card data storage. (Maximum capacity 128GB)
- Galvanic isolation. (USB, enclosure)
- IP65 dust and splash proof cover – SD card securely housed behind a flip panel.
- Low power consumption in sleep mode and WakeOnCAN or wake up signal feature.

Options

- Internal GNSS module. (Up to 30Hz refresh rate, socket for external antenna)
- Internal 3D 1kHz accelerometer and 3D Gyro module.
- Internal 4G LTE CAT 1 module.
- Internal Wi-Fi module.
- Larger capacity data storage SDXC cards available. (Up to 128GByte)
- Extension cable to connect CAN 0/PWR to vehicle OBD Port. (9 Way D Sub to OBD)

Compact, Configurable & Flexible Data Logger

The Influx **Rebel CT FlexRay** compact data logger is ideal for development applications that require up to 7 vehicle CAN 2.0 networks, FlexRay and additional LIN data.

The standard **Rebel CT FlexRay** includes an internal 18Hz GNSS module and a 3D accelerometer as standard.

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Comparison Table

Function	Rebel CT4	Rebel CT CAN FD	Rebel CT7	Rebel CT FlexRay
CAN 2.0	4x	2x	7x	7x
CAN FD	None	2x	None	None
LIN	2x	2x	3x	3x
FlexRay	None	None	None	2x
K-Line	None	None	None	None
Analogue inputs	4x	4x	4x	4x
Digital I/O	3x	3x	3x	3x
LED	9x	9x	9x	9x
USB interface	Yes	Yes	Yes	Yes
GNSS	(Optional)	(Optional)	18Hz GNSS (GPS& GLONASS or BDS)	18Hz GNSS (GPS& GLONASS or BDS)
3D Accelerometer	(Optional)	(Optional)	1KHz xyz Accelerometer (Max)	1KHz xyz Accelerometer (Max)
3D Gyro	(Optional)	(Optional)	(Optional)	(Optional)
4G LTE	(Optional)	(Optional)	(Optional)	(Optional)
Wi-Fi	(Optional)	(Optional)	(Optional)	(Optional)

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Technical Data

Function	Rebel CT4	Rebel CT CAN FD	Rebel CT7	Rebel CT FlexRay
Power supply	4.7V to 36V DC (12V typical) internally fused with reverse protection		8.5V to 36V DC (12V typical) internally fused with reverse protection	
Power consumption	Normal operation approx. 250mA to 400mA@12V			
	Sleep mode approx. 80mA@12V			
	Power down standby mode < 2mA@12V			
	WakeOnCAN function			
PC interfaces	Isolated USB2.0 (Type B) – can be powered up by USB			
LIN interfaces	2x LIN bus	2x LIN bus	3x LIN bus	3x LIN bus
FlexRay interfaces	None	None	None	2x channels
CAN interfaces	4x CAN 2.0B Max 1MBit/s	2x CAN 2.0B Max 1MBit/s 2x CAN FD Max 8MBits/s	7x CAN 2.0B Max 1MBit/s	7x CAN 2.0B Max 1MBit/s
Enclosure	Dimension (LxHxW)	Dimension (LxHxW)	Dimension (LxHxW)	Dimension (LxHxW)
	126x35x110 mm	126x35x110 mm	126x45x110 mm	126x45x110 mm
	Weight 330g	Weight 330g	Weight 520g	Weight 520g
	Aluminium IP65	Aluminium IP65	Aluminium IP65	Aluminium IP65
Environmental	-40degC to +85degC Humidity max 90%			
Data storage capability	Removable SDXC max 128GByte			

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Technical Data (Continued)

Function	Rebel CT4	Rebel CT CAN FD	Rebel CT7	Rebel CT FlexRay
	Analogue Inputs			
Number of channels	4 bipolar single-ended inputs			
Range	± 10V			
Resolution (ADC)	12 bits			
Max sampling rate	1 kHz			
Input impedance	>50K Ohms			
Min/Max applied voltage	± 40V			
	Digital Input / Output			
Number of channels	3 unipolar single-ended inputs/outputs			
Input switching thresholds	Low < 2V, High > 2.5V (up to 36V)			
Output Drive details	Collector-emitter voltage 36V max Collector current (DC) 50mA max. Saturation voltage <0.6V			
Min-Max applied voltage	-0.5V to 36V			
	Sensors - 3D Accelerometer and 3D Gyro			
Linear acceleration measurement range	(Optional)		±2g, ±4g, ±8g, ±16 g	
Linear acceleration sensitivity	(Optional)		0.061mg/LSB, 0.122mg/LSB, 0.244mg/LSB, 0.488 mg/LSB	
Linear acceleration output data rate	(Optional)		1Hz, 10Hz, 25Hz, 50Hz, 100Hz, 200Hz, 400Hz, 1000Hz	
Angular rate measurement range	(Optional)		No Gyro Fitted, or optional	
Angular rate sensitivity	(Optional)		No Gyro Fitted, or optional	
Angular rate output data rate	(Optional)		No Gyro Fitted, or optional	
	Sensors – GNSS			
Receiver type	(Optional)		72-channel, GPS L1C/A, SBAS L1C/A, QZSS L1C/A, QZSS L1 SAIF, GLONASS L1OF, BDS B1I, Galileo E1B/C	
Nav. update rate	(Optional)		18 Hz	
Position accuracy	(Optional)		2.5 m (GPS)/(GPS & GLOSNASS &BDS)	
			4m (GLONASS)	
Acquisition	(Optional)		Cold starts: 29s	
			Aided starts: 2s	
			Reacquisition: 1s	

Influx REBEL LT Influx REBEL CT Upgrade Options

Function	Upgrade Options	
Remote Server	Remote Server	
Cloud Server	Non-Managed	Managed
	Customer own installation version of StreamLog compatible with Microsoft Azure® Cloud Servers.	Customer secure login to managed StreamLog account enabling remote data and fleet management.
Local Server	Installation Files to setup remote data and fleet management system on a Windows ® server. (Requires Microsoft MS SQL®.)	
Integrated Wi-Fi	Wireless (Rebel CT range only)	
Network Standard	IEEE 802.11a/b/g/h/i/j, draft 802.11 n/k	
Frequency Band	2.412 - 2.484 GHz, 4.900 - 5.925 GHz	
Wireless Security	802.11i: AES, TKIP, WEP, WPA, and WPA2	
Certification	802.11n Draft 2.0, WPA, WPA2, WMM,WMM Power-save	
Antenna	External	
Integrated GPRS	4G LTE CAT 1 modem	
UMTS	*LTE CAT 1 / 3G/ 2G multi-mode modules	
Bands	LTE FDD bands: 12 (700 MHz), 28 (700 MHz), 13 (700 MHz), 20 (800 MHz), 5 (850 MHz), 19 (850 MHz), 8 (900 MHz), 4 (1700 MHz), 3 (1800 MHz), 2 (1900 MHz), 7 (2600 MHz), 1 (2100 MHz) UMTS(3G) Bands: 850MHz, 1900MHz, 2100MHz; GSM(2G) Bands: 900MHz, 1800MHz	
Receiver Input Sensitivity	-98 dBM to -114 dBm: 700MHz to 2100MHz	
Antenna	External	

*Modules changes as per region, mention region of usage while ordering.

Influx REBEL LT / Influx REBEL CT Upgrade Options (Continued)

Function		
Integrated GNSS	NEO-M8Q	NEO-M8L (**Coming soon**)
Receiver type	Standard Precision GNSS	Dead Reckoning, continuous navigation during signal loss. Continuous accurate navigation under all signal conditions using integrated 3D sensors and speed information from vehicle.
	72-channel, GPS L1C/A, SBAS L1C/A, QZSS L1C/A, QZSS L1-SAIF, GLONASS L1OF, BDS B1I , Galileo E1B/C	
Nav. update rate	Up to 18Hz	Up to 30Hz
Position accuracy	2.0 m CEP	Autonomous 2.5 m CEP with SBAS 1.5 m CEP
Acquisition	Cold starts: 26s Reacquisition: 1s	
Geofencing	Up to 4 circular areas (**coming soon**)	
Antenna	External	
Accuracy	Velocity: 0.05m/s	Velocity: 0.05m/s
	Heading: 0.3 degrees	Heading: 0.3 degrees
	Not Specified	Altitude: with SBAS 3.0m CEP
Sensors	3D Accelerometer and 3D Gyro	
Linear Acceleration Measurement Range	±2g, ±4g, ±8g, ±16 g	
Linear Acceleration Sensitivity	0.061mg/LSB, 0.122mg/LSB, 0.244mg/LSB, 0.488 mg/LSB	
Linear Acceleration Output Data Rate	1Hz, 10Hz, 25Hz, 50Hz, 100Hz, 200Hz, 400Hz, 1000Hz	
Angular Rate Measurement Range	±125dps, ±250dps, ±500dps, ±1000dps, ±2000dps	
Angular Rate Sensitivity	4.375mdps/LSB, 8.75mdps/LSB, 17.50mdps/LSB, 35mdps/LSB, 70mdps/LSB	
Angular Rate Output Data Rate	1Hz, 10Hz, 25Hz, 50Hz, 100Hz, 200Hz, 400Hz, 1000Hz	

Influx Technology Ltd

sales@influxtechnology.com
www.influxtechnology.com

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