

# PFM 200N SERIES

## AUTOMOTIVE POWER FAIL SIMULATOR FOR OEM LV 124 AND LV 148 AND OTHER MANUFACTURER STANDARDS



### FOR TESTS ACCORDING TO ...

- › LV 123
- › OEM LV 124 (2013-02)
- › LV 148
- › OEM LV 148
- › BMW GS 95024-2-1
- › BMW GS 95026
- › MBN LV 124-1
- › VW 80000
- › GMW 3172
- › Chrysler CS-11979
- › Cummins 14269 (982022-026)
- › Fiat 9.90110
- › Hyundai/Kia ES 95400-10, Rev. D
- › Iveco 16-2103 Rev.15 (2010)
- › Nissan 28401 NDS 02
- › PSA B21 7110
- › Renault 36.00.808/--L
- › Toyota TSC7203G
- › Volvo STD 515-0003
- › many other automotive standards

### PFM 200N SERIES - THE UNIQUE AUTOMOTIVE POWER FAIL SIMULATOR FOR LV 124 / LV 148 AND MICROINTERRUPTIONS AS PER MANUFACTURER STANDARDS

The PFM 200N100.1 and PFM 200N200 have been designed to fully meet the requirements for E10, E13 and E14 of the LV 124 and the E48-09 of the LV 148. It also allows to perform microinterruptions with fast rise/fall time of as low as 200ns as required by GMW 3172, sec. 9.2.18.

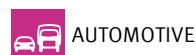
The PFM 200N series includes a switch for the power supply line from 100 mA to 200A and a separate switch in the ground return path. These switches can support very high inrush currents up to several hundreds of Ampères.

For signal- and data lines an additional 16 channel switch is included with current rating from 100 uA to 2 A per channel.

#### HIGHLIGHTS

- › **Switch for Power supply (100 A / 200 A) and signal/data lines (2 A)**
- › **Pulses E10 and E13 of the LV 124/LV 148 standard**
- › **Bidirectional current direction**
- › **Separate switch in the ground line**
- › **Rise/fall time less than 200ns**

#### APPLICATION AREAS



AUTOMOTIVE

**TECHNICAL DETAILS**

**MODELS**

MODELS	
PFM 200N100.1	DUT current 100 mA to 100 A
PFM 200N200	DUT current 100 mA to 200 A

**TECHNICAL DETAILS**

POWER LINE SWITCH	
Switch	2 Switches in the circuit - DC+ Power line - DC- Ground line
DUT voltage	± 100 VDC
DUT current	100 mA to 100 A, 200 A @ 25 °C
Current direction	Bidirectional
Switching time	< 200 ns (rise/fall time)
Repetition rate	10 µs - 1 h
Drop duration	1 µs - 1 h
Peak current	400 A for 200 ms 1,350 A for 1 ms automatic switch-off if I > 1,350 A
Safety	Short circuit protection

SWITCH FOR SIGNAL- AND DATALINE SWITCH	
Channels	16 independ switched lines
DUT voltage	Max. ± 40 VDC
DUT current	100 µA to 2 A, per channel @ 25 °C
Current direction	Bidirectional
Switching time	< 1 µs (rise/fall time)
Repetition rate	500 µs - 1 h
Drop duration	1 µs - 1 h
Bandwidth	50 MHz / 3 dB
Peak current	5 A for 200 ms
Safety	Short circuit protection
Connector	PHOENIX, DFMC connector, 1.5 mm <sup>2</sup> , Push-in-spring cage connection

**TECHNICAL DETAILS**

GENERAL SWITCH	
Switch Impedance	Power lines: < 50 mOhm Data lines: < 500 mOhm
Internal switch	Short circuit switch (DC+ to DC-), impedance <100 mOhm)
Internal switch	100 mOhm, per LV 124
Internal switch	Low
Internal switch	High

TRIGGER	
Trigger Out	BNC Plug at the front panel, Automatic release of the events Trigger for oscilloscope, negative slope 15 V
Trigger In	BNC Plug at the front panel, External release of a single event Pull down

PROTECTION	
DC Input protection	Max. voltage ±100 V, Clamped > 100 VDC
Data Input protection	Max. voltage ±40 V, Clamped > 40 VDC
Overtemperature	NTC measurement on each mosfet switch
Overcurrent	On each mosfet switch electronic protection
Current measurement	Overload measured at output

INTERFACE	
Frame bus	Control cable to AutoWave
Monitor Output	DUT out, differential, BNC plug on front panel Ratio 1:20

SUITABLE BUS SYSTEMS FOR DATALINE	
Bus systems	- Low Speed Can 100 kbit - High Speed Can 500 kbit - LIN Bus 19200 Baud - FlexRay 10 Mbit - ...

**TECHNICAL DETAILS**

**GENERAL DATA**

GENERAL DATA	
Dimensions	19"/3 HU, 448 mm x 536 mm x 154 mm
Weight	approx. 10.5 kg
Supply voltage	100 V - 265 VAC, 50/60 Hz
Fuses	2 x 2 AT
Reference temperature	23 °C ±5 °C
Temperature	10 °C to 35 °C
Humidity	25 % to 75 %, non condensing
Atmospheric pressure	86 kPa (860 mbar) to 106 kPa (1 060 mbar)

**OPTIONS**

CALIBRATION KIT	
CA LV 124	Calibration Kit for PFM 200N100.1
CA LV 124.1	Calibration Kit for PFM 200N200

CALIBRATION	
LV124 Calibration	Calibration kit for pulse verification, low inductive resistors,  Powerlines: CA LV124-P1R CA LV124-P100R  Datalines: For test 2 lines CA LV124-D1R CA LV124-D1000R
CA LV124-P1R	Power line calibration 1.0 Ohm ± 1 %, U max.: 12 V, P max.: 30 W P peak: 150 W max., 1 s
CA LV124-P100R	Power line calibration 100.0 Ohm ± 1 %, U max.: 100 V, P max.: 30 W P peak: 100 W max., 1 s
CA LV124-D1R	Data line calibration 1.0 Ohm ± 1 %, U max.: 2.0 V, P max.: 1 W, P peak: 4 W max., 1 s
CA LV124-D1000R	Data line calibration 1000 Ohm ± 1 %, U max.: 40.0 V, P max.: 1 W P peak: 4 W max., 1 s

# COMPETENCE WHEREVER YOU ARE



## CONTACT EM TEST DIRECTLY

### Switzerland

AMETEK CTS GmbH › Sternenhofstraße 15 › 4153 Reinach › Switzerland  
Phone +41 (0)61 204 41 11 › Fax +41 (0)61 204 41 00  
Internet: [www.ametek-cts.com](http://www.ametek-cts.com) › E-mail: [sales.conducted.cts@ametek.com](mailto:sales.conducted.cts@ametek.com)

### Germany

AMETEK CTS Europe GmbH › Customer Care Center EMEA › Lünener Straße 211  
› 59174 Kamen › Germany  
Phone +49 (0) 2307 26070-0 › Fax +49 (0) 2307 17050  
Internet: [www.ametek-cts.com](http://www.ametek-cts.com) › E-mail: [info.cts.de@ametek.com](mailto:info.cts.de@ametek.com)

### Poland

AMETEK CTS Europe GmbH › Biuro w Polsce › ul. Twarda 44 › 00-831 Warsaw › Poland  
Phone +48 (0) 518 643 12  
Internet: [www.ametek-cts.com](http://www.ametek-cts.com) › E-mail: [Infopolska.cts@ametek.com](mailto:Infopolska.cts@ametek.com)

### USA / Canada

AMETEK CTS US › 52 Mayfield Ave › Edison › NJ 08837 › USA  
Phone +1 732 417 0501  
Internet: [www.ametek-cts.com](http://www.ametek-cts.com) › E-mail: [usasales.cts@ametek.com](mailto:usasales.cts@ametek.com)

### P.R. China

AMETEK Commercial Enterprise (Shanghai) Co. Ltd. › Beijing Branch › Western Section, 2nd floor › Jing Dong Fang Building (B10) › Chaoyang District › Beijing, China, 100015  
Phone +86 10 8526 2111 › Fax +86 (0)10 82 67 62 38  
Internet: [www.ametek-cts.com](http://www.ametek-cts.com) › E-mail: [chinasales@ametek.com](mailto:chinasales@ametek.com)

### Republic of Korea

EM TEST Korea Limited › #405 › WooYeon Plaza › #986-8 › YoungDeok-dong › Giheung-gu › Yongin-si › Gyeonggi-do › Korea  
Phone +82 (31) 216 8616 › Fax +82 (31) 216 8616  
Internet: [www.emtest.co.kr](http://www.emtest.co.kr) › E-mail: [sales@emtest.co.kr](mailto:sales@emtest.co.kr)

### Singapore

AMETEK Singapore Pte. Ltd › No. 43 Changi South Avenue 2 › 04-01 Singapore 48164  
Internet: [www.ametek-cts.com](http://www.ametek-cts.com) › E-mail: [singaporesales.cts@ametek.com](mailto:singaporesales.cts@ametek.com)

### Great Britain

AMETEK GB › 5 Ashville Way › Molly Millars Lane › Wokingham › Berkshire RG41 2 PL › Great Britain  
Phone +44 845 074 0660  
Internet: [www.ametek-cts.com](http://www.ametek-cts.com)

Information about scope of delivery, visual design and technical data correspond with the state of development at time of release. Subject to change without further notice.