

MCF51EM256-based Poly Phase Energy Meter Reference Design 110V Technical Specifications

Electrical

Connection type	Direct connected (whole current)
Wiring configuration	3 phase 4 wire, 1 phase 3 wire & 1 phase 2 wire
Voltage rating	120 V +/-20% (L-N)
Current range	15-100 A
Accuracy	Class 0.5
Frequency range	57 Hz to 63 Hz
Pulse constant	800 impulses/kWh & 800 impulses/kVArh

Standard compliance	IEC 62053-11, IEC 62053-22, IEC 62053-23 & IEC62056-21
----------------------------	--

Mechanical

Dimensions (WxHxD)	168 x 242 x 84 mm
Weight	1.745kg
Enclosure	Plastic (PC/ABS blends)
Sealing	Sealing screws provision

Environmental

Compliance	IEC 60529
Ingress protection	IP 51 (Indoor type meter)
Operating Temperature	-25°C to +55°C
Storage Temperature	-25°C to +70°C
Humidity	95%

Features

Measurement parameters	Voltage, Current, Frequency, kWh import/export, kVAh import/export/lead/lag, kW, kVAh, Power factor.
Tamper Recording	Logging of tampers with time stamp for Voltage Failure, Current Failure, Voltage unbalance, Current Unbalance and Cover open. LED indication for tamper Tamper counter showing number tampers from last reset of counter.
Load profile	Load profile interval period: 5, 10, 15, 30, 60 minutes and 1 day.
Maximum demand	Programmable MD interval period of 30 minutes and 60 minutes MD can be reset by using Reset key.
Display	Custom built metering specific LCD with backlight. Eight digits 7 segment display for parameters with symbol identifiers. Auto scroll Manual scroll using UP and DOWN keys
Communication	Optical port as per standard IEC 62056-21 RS 232 port for debug and BDM port for programming.
Data security	Data storage in non-volatile memory 2 Levels of password: for programming, configuration and for auto calibration.
Output device	LED pulses proportional to kWh, kVAh LED for Power on indication

How to Reach Us:

Home Page:

www.freescale.com

Web Support:

<http://www.freescale.com/support>

USA/Europe or Locations Not Listed:

Freescale Semiconductor, Inc.
Technical Information Center, EL516
2100 East Elliot Road
Tempe, Arizona 85284
+1-800-521-6274 or +1-480-768-2130
www.freescale.com/support

Europe, Middle East, and Africa:

Freescale Halbleiter Deutschland GmbH
Technical Information Center
Schatzbogen 7
81829 Muenchen, Germany
+44 1296 380 456 (English)
+46 8 52200080 (English)
+49 89 92103 559 (German)
+33 1 69 35 48 48 (French)
www.freescale.com/support

Japan:

Freescale Semiconductor Japan Ltd.
Headquarters
ARCO Tower 15F
1-8-1, Shimo-Meguro, Meguro-ku,
Tokyo 153-0064
Japan
0120 191014 or +81 3 5437 9125
support.japan@freescale.com

Asia/Pacific:

Freescale Semiconductor China Ltd.
Exchange Building 23F
No. 118 Jianguo Road
Chaoyang District
Beijing 100022
China
+86 10 5879 8000
support.asia@freescale.com

For Literature Requests Only:

Freescale Semiconductor Literature Distribution Center
1-800-441-2447 or 303-675-2140
Fax: 303-675-2150
LDCForFreescaleSemiconductor@hibbertgroup.com

Information in this document is provided solely to enable system and software implementers to use Freescale Semiconductor products. There are no express or implied copyright licenses granted hereunder to design or fabricate any integrated circuits or integrated circuits based on the information in this document.

Freescale Semiconductor reserves the right to make changes without further notice to any products herein. Freescale Semiconductor makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does Freescale Semiconductor assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation consequential or incidental damages. "Typical" parameters that may be provided in Freescale Semiconductor data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including "Typicals", must be validated for each customer application by customer's technical experts. Freescale Semiconductor does not convey any license under its patent rights nor the rights of others. Freescale Semiconductor products are not designed, intended, or authorized for use as components in systems intended for surgical implant into the body, or other applications intended to support or sustain life, or for any other application in which the failure of the Freescale Semiconductor product could create a situation where personal injury or death may occur. Should Buyer purchase or use Freescale Semiconductor products for any such unintended or unauthorized application, Buyer shall indemnify and hold Freescale Semiconductor and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that Freescale Semiconductor was negligent regarding the design or manufacture of the part.

RoHS-compliant and/or Pb-free versions of Freescale products have the functionality and electrical characteristics as their non-RoHS-compliant and/or non-Pb-free counterparts. For further information, see <http://www.freescale.com> or contact your Freescale sales representative.

For information on Freescale's Environmental Products program, go to <http://www.freescale.com/epp>.

Freescale™ and the Freescale logo are trademarks of Freescale Semiconductor, Inc. All other product or service names are the property of their respective owners.

© Freescale Semiconductor, Inc. 2009. All rights reserved.

MCF51EM256110RDD5
Rev. 0
10/2009