

Landis+Gyr ZxG300/400 [LGZ56834255 - P07]

Remarks

Configuration

ZMG310CR4.041b.37 S2	P.M31CPTSCMDO.0417.L44sVTSFTILrbGFhlcvS64Ir
Firmware Version	P07
Measurement Base	active and reactive energy
Network Type	four-wire network (M)
Connection Type	direct connected
Accuracy	class 1
Nominal Voltage Range	3 x 220/380...240/415 V
Base Current	5 A
Maximum Current	125 A
Start Current	20 mA (according to IEC standard)
Electrical Interface 1	Powered RS232
Un	3 * 230V (Phase to Neutral)
Frequency	50 Hz
LED Pulse Length	2 ms
Meter Constant R2	500
Tariff Control	control inputs and time of use
Tarification	energy and demand
Load Profile	enabled
Stored Values	enabled
Demand Monitoring	enabled
Short Message System	enabled
Alert LED	disabled
Total Distortion Level	enabled
Load Profile 2	disabled
Power Quality Monitoring	disabled
Fraud Detection	enabled
Front Cover Removal	enabled
Terminal Cover Removal	enabled
Strong DC Field Detection	enabled
Losses	enabled
Extended Reactive Energy Calculation	disabled
Calendar Base	disabled
Meter Type	Gregorian
Extension Board	ZMG310CR4.041b.37 S2
Extension Board	0 inputs / 4 outputs with 1 load control output
Electrical Interface 2	RS485

Mains**Format of Registers in Display and IEC Readout**

Cumulated Energy Normal Operating Mode	000000.00 kWh
Cumulated Energy Test Mode	0000.0000 kWh
Delta Energy Normal Operating Mode	0000.0000 kWh
Delta Energy Test Mode	0000.0000 kWh
Ampere Hour Normal Operating Mode	00000.000 Ah
Ampere Hour Test Mode	00000.000 Ah
Current Average Demand and Maximum Demand	00.00 kW
Cumulative Maximum Demand	0000.00 kW

Measured Quantities

Calculation of Apparent Energy	true RMS
Rotating Field Direction	rotating right (clockwise)
ME1 +A	active energy; +A; all phases
	reverse stop over all phases (as Ferraris)
	[1-1:1.8.0] (1.8.0) Energy Total ME1 +A
	[1-1:1.4.0] (1.4.0) Current Average Demand ME1 +A
	[1-1:1.5.0] (1.5.0) Last Average Demand ME1 +A
	active energy; -A; all phases
	reverse stop over all phases (as Ferraris)
	[1-1:2.8.0] (2.8.0) Energy Total ME2 -A
	[1-1:2.4.0] (2.4.0) Current Average Demand ME2 -A
	[1-1:2.5.0] (2.5.0) Last Average Demand ME2 -A
ME2 -A	reactive energy; +R (QI + QII); all phases
	[1-1:3.8.0] (3.8.0) Energy Total ME3 +R
	[1-1:3.4.0] (3.4.0) Current Average Demand ME3 +R
ME3 +R	[1-1:3.5.0] (3.5.0) Last Average Demand ME3 +R

ME4 -R

reactive energy; -R (QIII + QIV); all phases
 [1-1:4.8.0] (4.8.0) Energy Total ME4 -R
 [1-1:4.4.0] (4.4.0) Current Average Demand ME4 -R
 [1-1:4.5.0] (4.5.0) Last Average Demand ME4 -R

ME5 QI

reactive energy; QI; all phases
 [1-1:5.8.0] (5.8.0) Energy Total ME5 QI
 [1-1:5.4.0] (5.4.0) Current Average Demand ME5 QI
 [1-1:5.5.0] (5.5.0) Last Average Demand ME5 QI

ME6 QII

reactive energy; QII; all phases
 [1-1:6.8.0] (6.8.0) Energy Total ME6 QII
 [1-1:6.4.0] (6.4.0) Current Average Demand ME6 QII
 [1-1:6.5.0] (6.5.0) Last Average Demand ME6 QII

ME7 QIII

reactive energy; QIII; all phases
 [1-1:7.8.0] (7.8.0) Energy Total ME7 QIII
 [1-1:7.4.0] (7.4.0) Current Average Demand ME7 QIII
 [1-1:7.5.0] (7.5.0) Last Average Demand ME7 QIII

ME8 QIV

reactive energy; QIV; all phases
 [1-1:8.8.0] (8.8.0) Energy Total ME8 QIV
 [1-1:8.4.0] (8.4.0) Current Average Demand ME8 QIV

ME13 Ah - L1

[1-1:8.5.0] (8.5.0) Last Average Demand ME8 QIV
 ampere hours; Phase L1
 [1-1:31.8.0] (31.8.0) Ampere Hour Total ME13 Ah - L1

ME14 Ah - L2

ampere hours; Phase L2
 [1-1:51.8.0] (51.8.0) Ampere Hour Total ME14 Ah - L2
 ampere hours; Phase L3

ME15 Ah - L3

[1-1:71.8.0] (71.8.0) Ampere Hour Total ME15 Ah - L3

Terminals

Output Pulse Length [ms]

Level 1 (Extension Board Terminals)

T1-1 Common

T1-4 Common

T1-5 Pulse Output

T1-6 Pulse Output

T1-7 Common

T1-8 Pulse Output

T1-9 Pulse Output

80

ME1 +A; 200 imp/kWh
 ME3 +R; 200 imp/kvarh

ME2 -A; 200 imp/kWh
 ME4 -R; 200 imp/kvarh

internal crystal

25. March

Sunday

03:00

+1 h

25. October

Sunday

04:00

120

not used

default start date and time of current calendar

Clock

Time Base

Daylight saving time

Start of daylight saving time

Earliest possible date

Weekday

Switching time

Time shifting

End of daylight saving time

Earliest possible date

Weekday

Switching time

Time Zone (deviation of local time to UTC [min])

Synchronization Output

Date and Time after Recover from Total Loss Power Reserve

Time of Use (TOU)

Time of use (TOU)

Active season table

01.01 - 31.12 Mo Tu Wd Th Fr Sa Su

1 1 1 1 1 1 1

Passive season table

01.01 - 31.12 Mo Tu Wd Th Fr Sa Su

1 1 1 1 1 1 1

Active day table1

00:00 E1 E2 E3 E4 E5 P1 P2 P3 P4 P5 K1 K2 K3 S
x

07:00 . x

23:00 x

Passive day table1

00:00 E1 E2 E3 E4 E5 P1 P2 P3 P4 P5 K1 K2 K3 S
x

07:00 . x

23:00 x

Special days

Active Day Table

Calendar name active

3tariff

Calendar name passive

3tariff

Activation time

not defined

Emergency script

E1 E2 E3 E4 E5 P1 P2 P3 P4 P5 K1 K2 K3 S

Control Table

Active Control Sources

Time of Use

Demand Monitoring

Control TableCommunication Input 1
Communication Input 2
Communication Input 3
Communication Input 4
Communication Input 5
Communication Input 6
Communication Input 7
Communication Input 8-/ -> -----
-/ -> -----
-/ -> -----
-/ -> -----
-/ -> -----
-/ -> -----
-/ -> -----
-/ -> -----

Clock invalid

-/ -> -----

-

-

Overvoltage L1

-/ -> -----

Overvoltage L2

-/ -> -----

Overvoltage L3

-/ -> -----

Undervoltage L1

-/ -> -----

Undervoltage L2

-/ -> -----

Undervoltage L3

-/ -> -----

Phase Fail L1

-/ -> -----

Phase Fail L2

-/ -> -----

Phase Fail L3

-/ -> -----

Phase Sequence Reversal

-/ -> -----

Strong DC Field Detection

-/ -> -----

Front Cover Removal

-/ -> -----

Terminal Cover Removal

-/ -> -----

Negative active Energy Flow L1

-/ -> -----

Negative active Energy Flow L2

-/ -> -----

Negative active Energy Flow L3

-/ -> -----

-

TOU-E1

-- -> 1 -----

TOU-E2

-- -> - 1 -----

TOU-E3	-->
TOU-E4	-->
TOU-E5	-->
TOU-P1	-->
TOU-P2	-->
TOU-P3	-->
TOU-P4	-->
TOU-P5	-->
TOU-K1	-->
TOU-K2	-->
TOU-K3	-->
TOU-S	-->
-	-->
Inverter	-->
-	-->
CS1 PIK	<- --
CS2 DEN`	<- -- 1
CS3 NOCH	<- -- 1
CS4	<- --
CS5	<- --
CS6	<- --
CS7	<- --
CS8	<- --
CS9	<- --
CS10	<- --
CS11	<- --
CS12	<- --
CS13	<- --
CS14	<- --
CS15	<- --
CS16	<- --

Integration and Capture Period Control

Integration Period

30 min

Integration Period

18 seconds

Detent Time:

Energy Registers

ER1

ME1 +A (primary); CS2 DEN`; rate number 1
Time integration period - standard

[1-1:1.8.1] (1.8.1) Energy ME1 +A

ME1 +A (primary); CS3 NOCH; rate number 2

Time integration period - standard

[1-1:1.8.2] (1.8.2) Energy ME1 +A

ME2 -A (primary); CS2 DEN`; rate number 1

Time integration period - standard

[1-1:2.8.1] (2.8.1) Energy ME2 -A

ME2 -A (primary); CS3 NOCH; rate number 2

Time integration period - standard

[1-1:2.8.2] (2.8.2) Energy ME2 -A

ME3 +R (primary); CS2 DEN`; rate number 1

Time integration period - standard

[1-1:3.8.1] (3.8.1) Energy ME3 +R

ME3 +R (primary); CS3 NOCH; rate number 2

Time integration period - standard

[1-1:3.8.2] (3.8.2) Energy ME3 +R

ME4 -R (primary); CS2 DEN`; rate number 1

Time integration period - standard

[1-1:4.8.1] (4.8.1) Energy ME4 -R

ME4 -R (primary); CS3 NOCH; rate number 2

Time integration period - standard

[1-1:4.8.2] (4.8.2) Energy ME4 -R

as free assignable energy registers

ME1 +A (primary); always active; rate number 0

Time integration period - capture period delta value (tm1)

[1-1:1.29.0] (1.29.0) Energy ME1 +A

ME2 -A (primary); always active; rate number 0

Time integration period - capture period delta value (tm1)

[1-1:2.29.0] (2.29.0) Energy ME2 -A

Energy Register 15/16

ER17

ER18

ER19

ME3 +R (primary); always active; rate number 0
 Time integration period - capture period delta value (tm1)

[1-1:3.29.0] (3.29.0) Energy ME3 +R

ME4 -R (primary); always active; rate number 0

Time integration period - capture period delta value (tm1)
 [1-1:4.29.0] (4.29.0) Energy ME4 -R

ER20

ME1 +A; always active; rate number 0
 [1-1:1.6.0] (1.6.0) Maximum Demand ME1 +A

[1-1:1.2.0] (1.2.0) Cumulative Maximum Demand ME1 +A
 ME1 +A; CS1 PIK; rate number 1

[1-1:1.6.1] (1.6.1) Maximum Demand ME1 +A
 [1-1:1.2.1] (1.2.1) Cumulative Maximum Demand ME1 +A

Maximum Demand

MDR1

MDR2

Operating Time Registers

OTR0

OTR1

OTR2

Instantaneous Values

Reference for Phase Current Angle

Calculation of Phase Current Angle

Format of instantaneous power

Arrows in Display

Arrow 1: Static Control Signal

Arrow 1: Flashing Arrow Control Signal

Arrow 2: Static Control Signal

Arrow 2: Flashing Arrow Control Signal

Arrow 3: Static Control Signal

Arrow 3: Flashing Arrow Control Signal

Arrow 4: Static Control Signal

Arrow 4: Flashing Arrow Control Signal

Arrow 5: Static Control Signal

Arrow 5: Flashing Arrow Control Signal

Arrow 6: Static Control Signal

Arrow 6: Flashing Arrow Control Signal

Arrow 7: Static Control Signal

Arrow 7: Flashing Arrow Control Signal

Arrow 8: Static Control Signal

Arrow 8: Flashing Arrow Control Signal

Arrow 9: Static Control Signal

Arrow 9: Flashing Arrow Control Signal

Arrow 10: Static Control Signal

Arrow 10: Flashing Arrow Control Signal

Arrow 11: Static Control Signal

Arrow 11: Flashing Arrow Control Signal

Arrow 12: Static Control Signal

Arrow 12: Flashing Arrow Control Signal

Billing Period Reset

Locking Duration (for each source) [minutes]

Reset Locking Type

Reset Trigger Button R

Billing Period Reset

Reset Recovery after Power Fail

Stored Values

Index Type

Index Length

Sorting in Display and IEC-Readout

Time and Date of Last Reset

Units of Stored Values in IEC-Readout

same as reset counter

always 2 digits (01,02 .. 99)

most recent value first

time and date

not included

1

over all communication channels (as ZMB)

yes

every day at 00:00

last billing period reset

Registers Captured in Stored Value Profile	0-0:1.0.0 1-0:0.1.0 1-1:1.8.1 1-1:1.8.2 1-1:2.8.1 1-1:2.8.2 1-1:3.8.1 1-1:3.8.2 1-1:4.8.1 1-1:4.8.2 1-1:1.8.0 1-1:2.8.0 1-1:3.8.0 1-1:4.8.0 50	Time and Date Reset Counter Energy ME1 +A Energy ME1 +A Energy ME2 -A Energy ME2 -A Energy ME3 +R Energy ME3 +R Energy ME4 -R Energy ME4 -R Energy Total ME1 +A Energy Total ME2 -A Energy Total ME3 +R Energy Total ME4 -R (max. 53)
Entries captured		
Load Profile		
Length of EDIS Status Register in Load Profile		
First Entry of Day		two bytes
Meaning of Daylight Saving Status Bit in Edis Status Register		at midnight
Triggers of Operational Indication Status Bit (4)		as state (set during whole daylight saving time)
Output of Time Stamp and Status in dlms Profiles		for each entry
Format of Timestamp in R5 / R6 Commands		with seconds [hh:mm:ss]
Registers Captured in Load Profile	0-0:1.0.0 0-0:C.240.12 1-1:1.29.0 1-1:2.29.0 1-1:3.29.0 1-1:4.29.0 1-1:1.8.0 1-1:2.8.0 1-1:3.8.0 1-1:4.8.0 1-1:32.5.0 1-1:52.5.0 1-1:72.5.0 1-1:31.5.0 1-1:51.5.0 1-1:71.5.0 14896	Time and Date EDIS Status Energy ME1 +A Energy ME2 -A Energy ME3 +R Energy ME4 -R Energy Total ME1 +A Energy Total ME2 -A Energy Total ME3 +R Energy Total ME4 -R Voltage L1 Voltage L2 Voltage L3 Phase Current L1 Phase Current L2 Phase Current L3 (304 days)
Entries captured		Integration Period
Capture Period Control		
Diagnostic Events		
Fraud Detection		
Strong DC Field Detection		[1-1:P.98.129] Strong DC Field Detection
Registered in		dedicated Event Log with Snapshot
Front Cover Removal		[1-1:P.98.130] Front Cover Removal
Registered in		dedicated Event Log with Snapshot
Terminal Cover Removal		[1-1:P.98.131] Terminal Cover Removal
Registered in		dedicated Event Log with Snapshot
Phase Sequence Reversal		[1-1:P.98.136] Phase Sequence Reversal
Integrated occurrence duration	10 s	
Registered in		dedicated Event Log with Snapshot
Negative Active Energy Flow		[1-1:P.98.137] Negatice Active Energy Flow
Minimum Current	0.5 A	
Integrated occurrence duration	10 s	
Registered in		dedicated Event Log with Snapshot
Power Quality Monitoring		
Ovvovoltage		[0-0:127.0.0*0] Ovvovoltage
Ovvovoltage Threshold	120 % (276 V)	
Integrated occurrence duration	10 s	
Registered in		Event Log
Undervoltage		[0-0:127.0.0*0] Undervoltage
Undervoltage Threshold	80 % (184 V)	
Integrated occurrence duration	10 s	
Registered in		Event Log
Phase Fail		[0-0:127.0.0*0] Phase Fail
Integrated occurrence duration	2 s	
Registered in		Event Log

Power Down
 Registered in
Voltage Quality
 Lower Voltage Limit
 Minimum Qualification Voltage
 Maximum Qualification Voltage
 Upper Voltage Limit
 Integrated occurrence duration
 Registered in

Demand Monitoring

Format of Snapshot Buffer
 Registers captured in dedicated Log

Event Log

Format of Timestamp in R5 / R6 Commands
 Sorting in Display and IEC-Readout
 Trigger Sources (event appears)

[0-0:127.0.0*0] Power Down
 Event Log
 [1-1:P.98.148] Voltage Quality
 50% (115 V)
 80% (184 V)
 110% (253 V)
 115% (265 V)
 10 s
 dedicated Event Log with Snapshot
 with instantaneous values (Ux, Ix, Power Factor)
 1-1:1.8.0 Energy Total ME1 +A
 1-1:2.8.0 Energy Total ME2 -A

with seconds [hh:mm:ss]
 most recent value first
 (2) All Energy Registers Cleared
 (3) Stored Values and/or Load Profile cleared
 (4) Event Log cleared
 (5) Battery Voltage Low
 (8) Billing Period Reset
 (9) Daylight Saving Time Enabled or Disabled
 (10) Clock Adjusted (Old Time/Date)
 (11) Clock Adjusted (New Time/Date)
 (17) Undervoltage L1
 (18) Undervoltage L2
 (19) Undervoltage L3
 (20) Overvoltage L1
 (21) Overvoltage L2
 (22) Overvoltage L3
 (23) Power Down
 (24) Power Up
 (45) Error Register cleared
 (49) Missing Voltage L1
 (51) Missing Voltage L3
 (59) All Registers cleared
 (66) Clock Invalid
 (75) Measuring System Memory Error
 (76) Time Base Flag Error
 (80) MMI Board Error
 (89) Start-up sequence invalid
 (93) General System Error
 (94) Communication Locked
 (95) EEPROM Identifier Wrong
 (104) One or more Count Registers cleared
 (106) Alert Occurred
 (128) Energy Registers cleared
 (135) Front Cover opened
 not used

Control Input of Event 13

Trigger Sources (event disappears)

- (9) Daylight Saving Time Enabled or Disabled
- (17) Undervoltage L1
- (18) Undervoltage L2
- (19) Undervoltage L3
- (20) Overvoltage L1
- (21) Overvoltage L2
- (22) Overvoltage L3
- (49) Missing Voltage L1
- (50) Missing Voltage L2
- (51) Missing Voltage L3
- (66) Clock Invalid
- (75) Measuring System Memory Error
- (76) Time Base Flag Error
- (80) MMI Board Error
- (89) Start-up sequence invalid
- (93) General System Error
- (94) Communication Locked
- (95) EEPROM Identifier Wrong
- (106) Alert Occurred

Registers Captured in Event Log

0-0:1.0.0	Time and Date
0-0:C.240.12	Event Number
0-0:C.240.12	Event Status
0-0:F.97.0	Error Register
500	(max. 500)

Entries captured

Alerts

Trigger Sources for Alert

Control Input of Event 13

Alert Output

Automatic clearing of alert

Display and IEC Readout List

Operating Display (auto scrolling)

- (134) Strong DC Field detected
- (135) Front Cover opened
- not used

no automatic clearing of alert

0.9.1	Time and Date
1.8.1	Energy ME1 +A
1.8.2	Energy ME1 -A
1.8.0	Energy Total ME1 +A
2.8.1	Energy ME2 -A
2.8.2	Energy ME2 +A
2.8.0	Energy Total ME2 -A
1 (of 50)	

stored values

Display List (manual scrolling)

stored values

F.F	Error Register
0.0.0	Identification Number 1.1
C.1.0	Identification Number 2.1
0.1.0	Reset Counter
0.9.1	Time and Date
1.8.1	Energy ME1 +A
1.8.1.VV	Energy ME1 +A
1.8.2	Energy ME1 +A
1.8.2.VV	Energy ME1 +A
2.8.1	Energy ME2 -A
2.8.1.VV	Energy ME2 -A
2.8.2	Energy ME2 -A
2.8.2.VV	Energy ME2 -A
3.8.1	Energy ME3 +R
3.8.1.VV	Energy ME3 +R
3.8.2	Energy ME3 +R
3.8.2.VV	Energy ME3 +R
4.8.1	Energy ME4 -R
4.8.1.VV	Energy ME4 -R
4.8.2	Energy ME4 -R
4.8.2.VV	Energy ME4 -R
1.8.0	Energy Total ME1 +A
1.8.0.VV	Energy Total ME1 +A
2.8.0	Energy Total ME2 -A
2.8.0.VV	Energy Total ME2 -A
3.8.0	Energy Total ME3 +R
3.8.0.VV	Energy Total ME3 +R
4.8.0	Energy Total ME4 -R
4.8.0.VV	Energy Total ME4 -R
C.6.0	Operating Time of Battery
32.7	Voltage L1
52.7	Voltage L2
72.7	Voltage L3
31.7	Phase Current L1
51.7	Phase Current L2
71.7	Phase Current L3
91.7	Neutral Current
14.7	Mains Frequency
81.7.0	Angle U(L1) to U(L1)
81.7.1	Angle U(L2) to U(L1)
81.7.2	Angle U(L3) to U(L1)
81.7.4	Angle I(L1) to U(L1)
81.7.5	Angle I(L2) to U(L2)
81.7.6	Angle I(L3) to U(L3)
13.7	Total Power Factor
33.7	Power Factor L1
53.7	Power Factor L2
73.7	Power Factor L3
END	End of List
3 (of 50)	

IEC-Readout

F.F	Error Register
0.0.0	Identification Number 1.1
C.1.0	Identification Number 2.1
0.1.0	Reset Counter
0.1.0.VV	Reset Counter
0.9.1	Time and Date
1.8.1	Energy ME1 +A
1.8.1.VV	Energy ME1 +A
1.8.2	Energy ME1 +A
1.8.2.VV	Energy ME1 +A
2.8.1	Energy ME2 -A
2.8.1.VV	Energy ME2 -A
2.8.2	Energy ME2 -A
2.8.2.VV	Energy ME2 -A
3.8.1	Energy ME3 +R
3.8.1.VV	Energy ME3 +R
3.8.2	Energy ME3 +R
3.8.2.VV	Energy ME3 +R
4.8.1	Energy ME4 -R
4.8.1.VV	Energy ME4 -R
4.8.2	Energy ME4 -R
4.8.2.VV	Energy ME4 -R
1.8.0	Energy Total ME1 +A
1.8.0.VV	Energy Total ME1 +A
2.8.0	Energy Total ME2 -A
2.8.0.VV	Energy Total ME2 -A
3.8.0	Energy Total ME3 +R
3.8.0.VV	Energy Total ME3 +R
4.8.0	Energy Total ME4 -R
4.8.0.VV	Energy Total ME4 -R
C.2.0	Number of Parameterisations
C.2.1	Date and Time of Last Parameterisation
C.6.0	Operating Time of Battery
C.7.0	Phase Fail Counter L1, L2, L3
C.7.1	Phase Fail Counter L1
C.7.2	Phase Fail Counter L2
C.7.3	Phase Fail Counter L3
C.8.1	Operating Time OTR1
C.8.2	Operating Time OTR2
C.8.0	Operating Time Total OTR0
32.7	Voltage L1
52.7	Voltage L2
72.7	Voltage L3
31.7	Phase Current L1
51.7	Phase Current L2
71.7	Phase Current L3
91.7	Neutral Current
14.7	Mains Frequency
81.7.0	Angle U(L1) to U(L1)
81.7.1	Angle U(L2) to U(L1)
81.7.2	Angle U(L3) to U(L1)
81.7.4	Angle I(L1) to U(L1)
81.7.5	Angle I(L2) to U(L2)
81.7.6	Angle I(L3) to U(L3)
13.7	Total Power Factor
33.7	Power Factor L1
53.7	Power Factor L2
73.7	Power Factor L3

20 (of 50)

stored values

Service List

F.F	Error Register
0.0.0	Identification Number 1.1
C.1.0	Identification Number 2.1
0.1.0	Reset Counter
0.1.0.VV	Reset Counter
0.9.1	Time and Date
1.8.1	Energy ME1 +A
1.8.1.VV	Energy ME1 +A
1.8.2	Energy ME1 +A
1.8.2.VV	Energy ME1 +A
2.8.1	Energy ME2 -A
2.8.1.VV	Energy ME2 -A
2.8.2	Energy ME2 -A
2.8.2.VV	Energy ME2 -A
3.8.1	Energy ME3 +R
3.8.1.VV	Energy ME3 +R
3.8.2	Energy ME3 +R
3.8.2.VV	Energy ME3 +R
4.8.1	Energy ME4 -R
4.8.1.VV	Energy ME4 -R
4.8.2	Energy ME4 -R
4.8.2.VV	Energy ME4 -R
1.8.0	Energy Total ME1 +A
1.8.0.VV	Energy Total ME1 +A
2.8.0	Energy Total ME2 -A
2.8.0.VV	Energy Total ME2 -A
3.8.0	Energy Total ME3 +R
3.8.0.VV	Energy Total ME3 +R
4.8.0	Energy Total ME4 -R
C.2.0	Number of Parameterisations
C.2.1	Date and Time of Last Parameterisation
C.6.0	Operating Time of Battery
C.7.0	Phase Fail Counter L1, L2, L3
C.7.1	Phase Fail Counter L1
C.7.2	Phase Fail Counter L2
C.7.3	Phase Fail Counter L3
C.8.1	Operating Time OTR1
C.8.2	Operating Time OTR2
C.8.0	Operating Time Total OTR0
32.7	Voltage L1
52.7	Voltage L2
72.7	Voltage L3
END	End of List
30 (of 50)	
0.0.0	Identification Number 1.1
C.1.0	Identification Number 2.1
0.9.1	Time and Date
C.6.0	Operating Time of Battery
END	End of List

stored values
Set Mode Data List

Display

Display List / IEC-Readout Identification Number

Data Format

Format of Date for Display and IEC-Readout

Use of Separators in IEC-Readout of Timestamps

Timestamp of Maximum Demand and Minimum Power Factor Registers

Display Indicators

- Low Battery 1
- Low Battery 2
- Phase Voltage Indicators L1 L2 L3
- Phase Current Indicators I1 I2 I3
- Rotating Field
- Active Energy Import
- Active Energy Export
- Reactive Energy Import
- Reactive Energy Export
- Communication active Indicator
- Alert Indicator

DD.MM.YYYY
with separators (YY-MM-DD hh:mm:ss) or (DD.MM.YYYY hh:mm:ss)
not shown

- displayed
- displayed
- always shown

Display Timers

Return Time to Operating Display [s]	100
Timer in Operating Display [s]	12
Backlight Duration [s]	100

Menu Entries

Data Menu	Std_dAtA	Manual List
	P.01	Load Profile
	P.98	Event Log
	END	End of List
Service Menu	Set	Set Mode List
	SEr_dAtA	Service List
	P.98	Event Log
	bAt 1	Battery sign on/off
	tEST	Test Mode on/off
	ALERT	Alert off
	END	End of List

Test Mode

Return Time to Operating Display [min]	5
Recovery of Test Mode after Power Fail	no

Error

Resetable Errors under Utility Seal (x: resetable)	(F:F 0100 0000) battery low
Visibility of Critical Errors (x: visible)	(F:F 0200 0000) date/time invalid
	(F:F 0000 0001) start-up sequence invalid
	(F:F 0000 0002) measuring system error
	(F:F 0000 0010) general system error
	(F:F 0000 0020) communication locked
	(F:F 0000 0040) EEPROM identifier wrong
	(F:F 0000 0100) ROM checksum error
	(F:F 0000 0200) backup data checksum error
	(F:F 0000 0400) parameter data checksum error
	(F:F 0000 0800) load profile data checksum error
	(F:F 0000 1000) stored values and event log checksum error
	(F:F 0000 4000) calibration checksum error
	(F:F 0001 0000) RAM error
	(F:F 0002 0000) EEPROM Error
	(F:F 0004 0000) measuring system memory error
	(F:F 0008 0000) time base error
	(F:F 0010 0000) load profile memory error
	(F:F 0100 0000) battery low
	(F:F 0200 0000) invalid clock
Visibility Mask in Display	active
Visibility Mask in IEC-Readout	active

Identification Numbers

Identification Number 1.1	
Identification Number 1.2	
Identification Number 1.3	
Identification Number 1.4	
Identification Number 2.1	
Identification Number 2.2	
Physical IEC Device Address	
Physical HDLC Device Address (Lower MAC)	
Parameterisation ID	
Connection ID	

Communication

Type of identification message	programmable (standard)
IEC Identification String	LGZx\2ZMG310041b
Inhibition after wrong passwords	
Number of attempts before inhibition	10
Recover from inhibition after	1 hours
Return Time to Sleep Mode [s]	10
Data Format of R6 Command	including header information between blocks
Optical Interface	

Optical Interface	
Initial Protocol	IEC 62056-21
Start Transmission Rate	300 Baud
Maximum Transmission Rate	9600 Baud
IEC Inter Character Timeout	1.5 s
HDLC Transmit Buffer Size	248
Electrical Interface(s)	
External device on Electrical Interface 1	
Electrical Interface 1 (Powered RS232)	3rd party modem
Initial Protocol	Autodetect
Transmission Rate	9600 Baud
IEC Inter Character Timeout	3 s
HDLC Transmit Buffer Size	128
Handshake	
CTS	enabled
Access Protection	
Protected with IEC address	disabled
Protected with HDLC address	disabled
Operating Mode (Electrical Interface 2)	
Electrical Interface 2 (RS485)	RS485 bus master with fixed transmission speed (linked to interface 1)
Initial Protocol	Autodetect
Transmission Rate	9600 Baud
IEC Inter Character Timeout	3 s
HDLC Transmit Buffer Size	128
Access Protection	
Protected with IEC address	disabled
Protected with HDLC address	disabled
dlms Response Delay [ms]	0
External Modem Configuration	
Predefined Modem Settings	user defined
Delay between Initialization Strings [0.1 s]	5
Maximum Connection Time [min]	0
Modem Reset every [h]	12
Modem Reset Start Time	05:00
Initialization Strings	
AT Command 1	Z
Answer to AT Command 1	OK
AT Command 2	E0
Answer to AT Command 2	OK
AT Command 3	
Answer to AT Command 3	
AT Command 4	
Answer to AT Command 4	
AT Command 5	
Answer to AT Command 5	
AT Command 6	
Answer to AT Command 6	
AT Command 7	
Answer to AT Command 7	
AT Command 8	
Answer to AT Command 8	
AT Command 9	
Answer to AT Command 9	
AT Command 10	
Answer to AT Command 10	
Check Modem Strings	
Check Modem String	ATE0Q0
Check Modem String Answer	OK
Modem Answers	
OK	OK
CONNECT	CONNECT
RING	RING
NO CARRIER	NO CARRIER
ERROR	ERROR
CONNECT 1200	CONNECT 1200
NO DIAL TONE	NO DIAL TONE
BUSY	BUSY

NO ANSWER
CONNECT 600
CONNECT 2400
CONNECT 4800
CONNECT 9600
CONNECT 14400
CONNECT 19200
CONNECT 38400
CONNECT 57600

Time Window

Time Window
Start GSM Time
End GSM Time
Duration
GPRS/CSD Switching
GPRS to CSD switching
Command
CSD to GPRS switching
CSD to GPRS switching

Security System

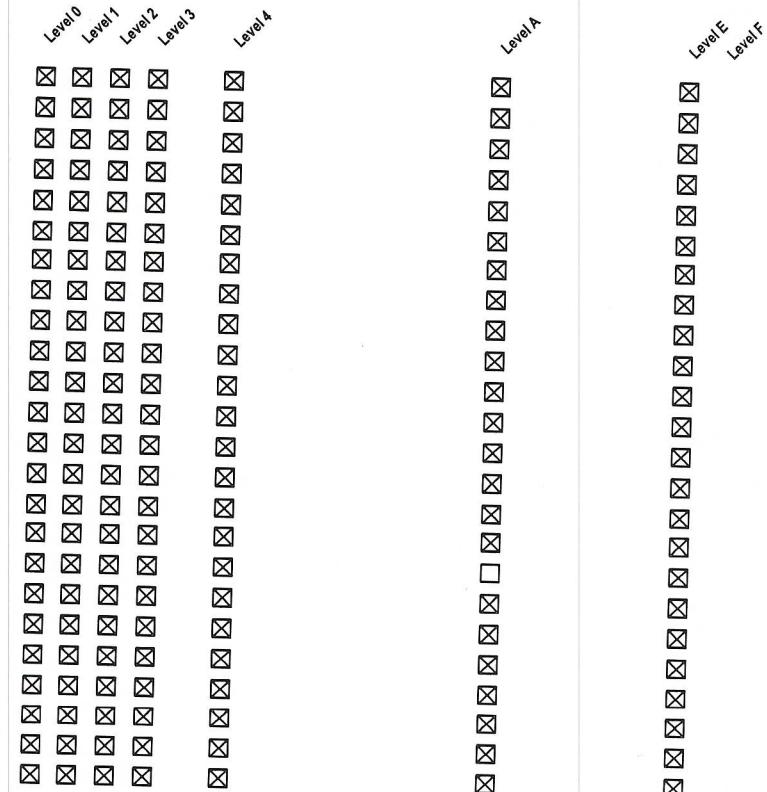
Read Access to Data (Registers and Profiles)

- R00: Error Code
- R01: Identification Number 1
- R02: Identification Number 2
- R03: Device Addresses (IEC and HDLC)
- R04: Parameterisation ID, Timestamp, Counter
- R11: Connection ID
- R08: Time and Date
- R06: Energy Total Registers
- R07: Energy Registers
- R70: Maximum Demand Registers
- R71: Cumulative Maximum Registers
- R13: Power Factor
- R48: Operating Time Registers
- R05: Reset Counter and Timestamp
- R15: Stored Values
- R73: Load Profile
- R14: Event Log
- R10: Battery (Time and Voltage)
- R16: All other Registers
- R86: Current Hour Registers
- R87: Current Hour Register Format
- R88: Fraud Detection
- R89: Power Quality Monitoring
- R90: Demand Monitoring Log

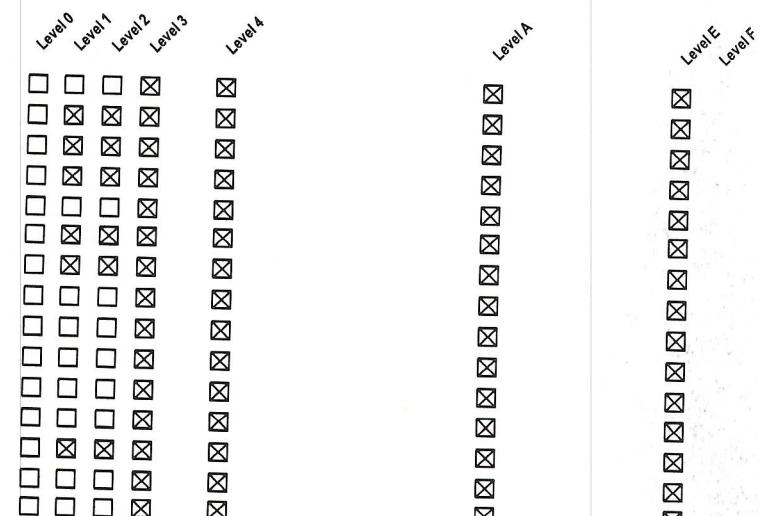
Write or Reset Access to Data (Registers and Profiles)

NO ANSWER
CONNECT 600
CONNECT 2400
CONNECT 4800
CONNECT 9600
CONNECT 1440
CONNECT 2880
CONNECT 3660
CONNECT 5600

00:00
23:59
23 h 59 m



- W00: Error Code
- W01: Identification Number 1
- W02: Identification Number 2
- W03: Device Addresses (IEC and HDLC)
- W04: Parameterisation ID, Timestamp, Counter
- W11: Connection ID
- W08: Time and Date
- W06: Energy Total Registers
- W07: Energy Registers
- W70: Maximum Demand Registers
- W71: Cumulative Maximum Registers
- W13: Power Factor
- W48: Operating Time Registers
- W05: Reset Counter and Timestamp
- W15: Stored Values



- W73: Load Profile
- W14: Event Log
- W10: Battery (Time and Voltage)
- W16: All other Registers
- W86: Current Hour Registers
- W87: Current Hour Register Format
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- W89: Power Quality Monitoring
- W90: Demand Monitoring Log

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Write Access to Parameters

- W21: Primary Values (Transformer Ratio)
- W19: External Pulse Input Configuration
- W20: Pulse Output Configuration
- W09: Clock (Synchronization, Daylight Saving)
- W79: TOU, Specials Days and Communication Inputs
- W28: Control Table
- W77: Integration / Capture Period
- W25: Energy Register Format
- W26: Demand Register Format
- W22: Power Factor Configuration
- W24: Reset Tables
- W72: Stored Value Configuration
- W78: Load Profile Configuration
- W23: Event Log Configuration
- W74: Power Quality Monitoring
- W75: Fraud Monitoring
- W76: Overcurrent Monitor Thresholds
- W81: Demand Monitor Thresholds
- W27: Display and IEC-Readout List
- W80: Communication Parameters
- W82: Electrical Interface / SMS System
- W92: Electrical Interface 2
- W85: Losses: Iron and Copper Resistor
- W29: All other Parameters

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