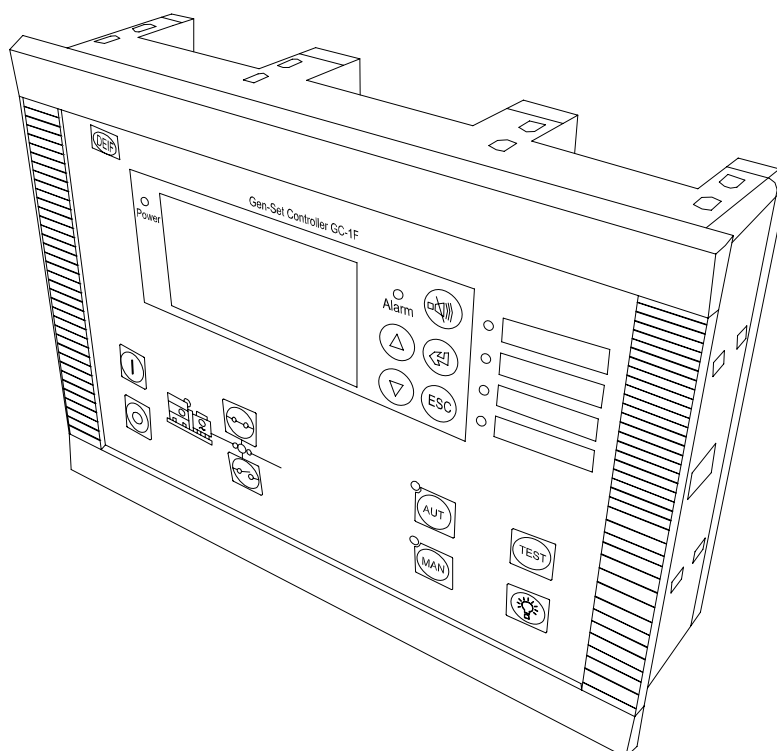


Description of options

Option H2, Modbus communication GC-1F

4189340483A
SW version 1.1X.X



- *Description of option*
- *Parameter list*
- *Data tables*
- *Parameter table*



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1. Warnings and legal information

Legal information and responsibility

DEIF takes no responsibility for installation or operation of the generator set. If there is any doubt about how to install or operate the generator set controlled by the unit, the company responsible for the installation or the operation of the set must be contacted.

The units are not to be opened by unauthorised personnel. If opened anyway, the warranty will be lost.

Electrostatic discharge awareness

Sufficient care must be taken to protect the terminals against static discharges during the installation. Once the unit is installed and connected, these precautions are no longer necessary.

Safety issues

Installing the unit implies work with dangerous currents and voltages. Therefore, the installation should only be carried out by authorised personnel who understand the risks involved in working with live electrical equipment.



Be aware of the hazardous live currents and voltages. Do not touch any AC measurement inputs as this could lead to injury or death.

Definitions

Throughout this document a number of notes and warnings will be presented. To ensure that these are noticed, they will be highlighted in order to separate them from the general text.

Notes



The notes provide general information which will be helpful for the reader to bear in mind.

Warning



The warnings indicate a potentially dangerous situation which could result in death, personal injury or damaged equipment, if certain guidelines are not followed.

2. Description of option

ANSI numbers

Function	ANSI no.
RS485 Modbus communication	-

H2 option

If option H5 (CANbus) is present, H2 is a software option. If not, H2 is a hardware option.

Terminal description

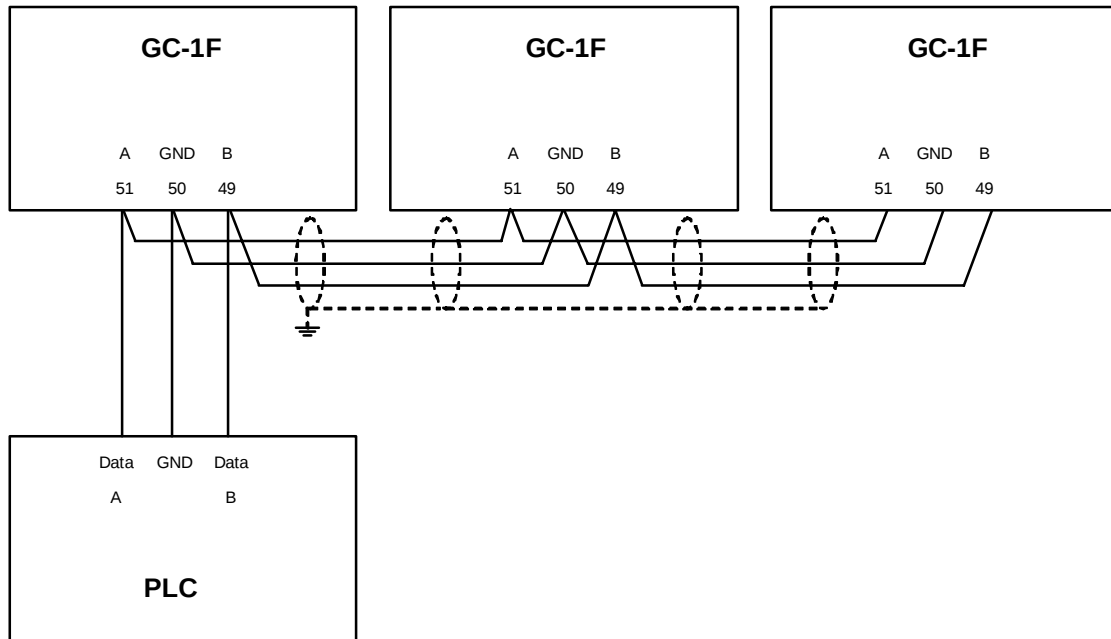
Term.	Function	Description
49	DATA - (B)	Modbus RTU, RS485
50	GND	
51	DATA + (A)	
52	Not used	

Hardware settings

These are the GC-1F RS485 hardware settings:

- a. 9600 or 19200 bps
- b. 8 data bits
- c. None parity
- d. 1 stop bit

Wiring



Cable: Belden 3105A or equivalent. 22 AWG (0.6 mm²) twisted pair, shielded, <40 mΩ/m, min. 95% shield coverage.

3. Parameter list

7510 Ext. communication

No.	Setting		Min. setting	Max. setting	Factory setting
7511	Ext. communication	ID	1	247	1
7512	Ext. communication	Baud rate	9600 Baud	19200 Baud	9600 Baud
7513	Ext. communication	Mode	RTU	ASCII	RTU



The mode ASCII is used for modem communication (ASCII: 7 data bit. RTU: 8 data bit).

7520 Ext. comm. error

No.	Setting		Min. setting	Max. setting	Factory setting
7521	Ext. comm. error	Delay	1.0 s	100.0 s	10.0 s
7522	Ext. comm. error	Relay output A	Not used	Option dependent	Not used
7523	Ext. comm. error	Relay output B	Not used		Not used
7524	Ext. comm. error	Enable	OFF	ON	OFF
7525	Ext. comm. error	Fail class	Alarm	Trip MB	Warning

4. Data tables

Configurable area (read only) (function code 04h)

Address	Content	Type
		ML-2
0	U_{L1-L2}	Generator voltage. Measured in [V]
1	U_{L2-L3}	Generator voltage. Measured in [V]
2	U_{L3-L1}	Generator voltage. Measured in [V]
3	U_{L1-N}	Generator voltage. Measured in [V]
4	U_{L2-N}	Generator voltage. Measured in [V]
5	U_{L3-N}	Generator voltage. Measured in [V]
6	f_{L1}	Generator freq. Measured in [Hz/100]
7	I_{L1}	Generator current. Measured in [A]
8	I_{L2}	Generator current. Measured in [A]
9	I_{L3}	Generator current. Measured in [A]
10	P_{GEN}	Generator active power. Measured in [kW]. Negative value means reverse power
11	Q_{GEN}	Generator reactive power. Measured in [kVAr]. Positive value means generated inductive reactive power
12	S_{GEN}	Generator apparent power. Measured in [kVA]
13	Cos-phi	-99...0...100 generator cosinus-phi. Measured in cos-phi:100. Negative value means capacitive cos-phi
14 [HI] 15 [LO]		
16 [HI] 17 [LO]	E_{GEN}	Energy counter. Measured in [kWh]. Max. 300000 MWh
18	$U_{MainsL1-L2}$	Mains voltage. Measured in [V]
19	$U_{MainsL2-L3}$	Mains voltage. Measured in [V]
20	$U_{MainsL3-L1}$	Mains voltage. Measured in [V]
21	$U_{MainsL1-N}$	Mains voltage. Measured in [V]
22	$U_{MainsL2-N}$	Mains voltage. Measured in [V]
23	$U_{MainsL3-N}$	Mains voltage. Measured in [V]
24	F_{Mains}	Mains frequency L1. Measured in [Hz/100]
25		Reserved
26		Reserved
27	Alarms	Number of alarms
28	Alarms	Number of unack. alarms
29	Start attempts	Start attempts
30 [HI] 31 [LO]	Abs. run. hours	Hour
32	GB_{oper}	GB operations counter

Address	Content	Type			
33	MB _{oper}	MB operations counter			
34	U _{SUPPLY}	Supply voltage. Measured in [V/10]			
35		Reserved			
36	RPM	RPM			
37		Multi input term. 6, unscaled			
38		Multi input term. 7, unscaled			
39		Multi input term. 8, unscaled			
40		Reserved			
41		Reserved			
42		Reserved			
43		Reserved			
44		Reserved			
45		Reserved			
46		Reserved			
47		Reserved			
48	Protection alarms	Bit 0	1000	G -P> 1	
		Bit 1		Reserved	
		Bit 2		Reserved	
		Bit 3	1030	G I> 1	
		Bit 4	1040	G I> 2	
				Reserved	
				Reserved	
		Bit 7		Reserved	
		Bit 8		Reserved	
		Bit 9		Reserved	
		Bit 10		Reserved	
		Bit 11	1150	G U> 1	
		Bit 12		Reserved	
		Bit 13	1170	G U< 1	
		Bit 14		Reserved	
		Bit 15		Reserved	
49	Protection alarms	Bit 0	1210	G f> 1	
		Bit 1		Reserved	
		Bit 2		Reserved	
		Bit 3	1240	G f< 1	
		Bit 4		Reserved	
		Bit 5		Reserved	
		Bit 6		Reserved	
		Bit 7		Reserved	
		Bit 8		Reserved	
		Bit 9		Reserved	
		Bit 10		Reserved	
		Bit 11		Reserved	
		Bit 12		Reserved	
		Bit 13		Reserved	

Address	Content	Type		
		Bit 14		Reserved
		Bit 15		Reserved
50	Protection alarms	Bit 0		Reserved
		Bit 1		Reserved
		Bit 2		Reserved
		Bit 3		Reserved
		Bit 4		Reserved
		Bit 5		Reserved
		Bit 6		Reserved
		Bit 7		Reserved
		Bit 8		Reserved
		Bit 9		Reserved
		Bit 10		Reserved
		Bit 11		Reserved
		Bit 12		Reserved
		Bit 13		Reserved
		Bit 14		Reserved
		Bit 15		Reserved
51	Synchronisational arms	Bit 0		Reserved
		Bit 1		Reserved
		Bit 2		Reserved
		Bit 3	2150	Phase seq. error
		Bit 4	2160	GB open failure
		Bit 5	2170	GB close failure
		Bit 6		GB pos. failure
		Bit 7	2200	MB open failure
		Bit 8	2210	MB close failure
		Bit 9		MB pos. failure
		Bit 10		Reserved
		Bit 11		NOT USED
		Bit 12		NOT USED
		Bit 13		NOT USED
		Bit 14		NOT USED
		Bit 15		NOT USED
52	Digital inputs	Bit 0		Reserved
		Bit 1		Reserved
		Bit 2		Reserved
		Bit 3		Reserved
		Bit 4		Reserved
		Bit 5		Reserved
		Bit 6		Reserved
		Bit 7		Reserved
		Bit 8		Reserved
		Bit 9		Reserved
		Bit 10		Reserved

Address	Content	Type		
		Bit 11		Reserved
		Bit 12		Reserved
		Bit 13		NOT USED
		Bit 14		NOT USED
		Bit 15		NOT USED
53	Digital inputs	Bit 0	3000	Dig. input 1
		Bit 1	3010	Dig. input 2
		Bit 2	3020	Dig. input 3
		Bit 3	3030	Dig. input 4
		Bit 4	3040	Dig. input 5
		Bit 5	3050	Dig. input 6
		Bit 6		NOT USED
		Bit 7		Reserved
		Bit 8		Reserved
		Bit 9		Reserved
		Bit 10		Reserved
		Bit 11		Reserved
		Bit 12		Reserved
		Bit 13		Reserved
		Bit 14		NOT USED
		Bit 15		NOT USED
54	Digital inputs	Bit 0	3400	Dig. multi input 6
		Bit 1	3410	Dig. multi input 7
		Bit 2	3420	Dig. multi input 8
		Bit 3		
		Bit 4		
		Bit 5		
		Bit 6		
		Bit 7		
		Bit 8		
		Bit 9		
		Bit 10		
		Bit 11		
		Bit 12	3490	Dig. input 19-20, emergency stop
		Bit 13		NOT USED
		Bit 14		NOT USED
		Bit 15		NOT USED
55	Analogue inputs	Bit 0		Reserved
		Bit 1		Reserved
		Bit 2		Reserved
		Bit 3		Reserved
		Bit 4		Reserved
		Bit 5		Reserved
		Bit 6		Reserved
		Bit 7		NOT USED

Address	Content	Type		
		Bit 8		NOT USED
		Bit 9		NOT USED
		Bit 10		NOT USED
		Bit 11		NOT USED
		Bit 12		NOT USED
		Bit 13		NOT USED
		Bit 14		NOT USED
		Bit 15		NOT USED
56	Analogue inputs	Bit 0		
		Bit 1		
		Bit 2		
		Bit 3		
		Bit 4		
		Bit 5		
		Bit 6		
		Bit 7		
		Bit 8		
		Bit 9		
		Bit 10		
		Bit 11		
		Bit 12		NOT USED
		Bit 13		NOT USED
		Bit 14		NOT USED
		Bit 15		NOT USED
57		Bit 0		Multi input 1.1
		Bit 1		Multi input 1.2
		Bit 2		W. failure, multi input 1
		Bit 3		Multi input 2.1
		Bit 4		Multi input 2.2
		Bit 5		W. failure, multi input 2
		Bit 6		Multi input 3.1
		Bit 7		Multi input 3.2
		Bit 8		W. failure, multi input 3
		Bit 9	4510	Overspeed 1
		Bit 10	4520	Overspeed 2
		Bit 11	4620	VDO fuel level 1.3
		Bit 12	4610	Charger generator
		Bit 13	4600	V-belt
		Bit 14	4550	Generator Hz/V failure
		Bit 15	4570	Start failure
58		Bit 0	5000	Relay 21
		Bit 1	5010	Relay 22
		Bit 2	5020	Relay 23
		Bit 3	5030	Relay 24
		Bit 4	5040	Relay 26

Address	Content	Type		
		Bit 5		
		Bit 6		
		Bit 7		
		Bit 8		
		Bit 9		
		Bit 10		
		Bit 11		
		Bit 12		
		Bit 13		
		Bit 14		
		Bit 15		
59		Bit 0		Reserved
		Bit 1		Manual
		Bit 2		Reserved
		Bit 3		Auto
		Bit 4		Test
		Bit 5		Island
		Bit 6		AMF
		Bit 7		
		Bit 8		
		Bit 9		
		Bit 10		
		Bit 11		NOT USED
		Bit 12		NOT USED
		Bit 13		NOT USED
		Bit 14		NOT USED
		Bit 15		AMF active
60	Communication	Bit 0	7570	EIC comm. error
		Bit 1	7580	EIC warning
		Bit 2	7590	EIC shutdown
		Bit 3	7600	EIC overspeed
		Bit 4	7610	EIC coolant temp. 1
		Bit 5	7620	EIC coolant temp. 2
		Bit 6	7630	EIC oil pressure 1
		Bit 7	7640	EIC oil pressure 2
		Bit 8		NOT USED
		Bit 9		NOT USED
		Bit 10		NOT USED
		Bit 11		NOT USED
		Bit 12		NOT USED
		Bit 13		NOT USED
		Bit 14		NOT USED
		Bit 15		NOT USED
61- 499	Configurable	Reserved		

Measurement table (read only) (function code 04h)

Address	Content	Type
		ML-2
500		Application version
501	U_{L1-L2}	Generator voltage. Measured in [V]
502	U_{L2-L3}	Generator voltage. Measured in [V]
503	U_{L3-L1}	Generator voltage. Measured in [V]
504	U_{L1-N}	Generator voltage. Measured in [V]
505	U_{L2-N}	Generator voltage. Measured in [V]
506	U_{L3-N}	Generator voltage. Measured in [V]
507	f_{gen}	Generator freq. Measured in [Hz/100]
508		Reserved
509		Reserved
510		Reserved
511		Reserved
512		Reserved
513	I_{L1}	Generator current. Measured in [A]
514	I_{L2}	Generator current. Measured in [A]
515	I_{L3}	Generator current. Measured in [A]
516	P_{L1}	Generator active power. Measured in [kW]. Negative value means reverse power
517	P_{L2}	Generator active power. Measured in [kW]. Negative value means reverse power
518	P_{L3}	Generator active power. Measured in [kW]. Negative value means reverse power
519	P_{GEN}	Generator total active power. Measured in [kW]. Negative value means reverse power.
520	Q_{L1}	Generator reactive power. Measured in [kVAR]. Positive value means generated inductive reactive power
521	Q_{L2}	Generator reactive power. Measured in [kVAR]. Positive value means generated inductive reactive power
522	Q_{L3}	Generator reactive power. Measured in [kVAR]. Positive value means generated inductive reactive power
523	Q_{GEN}	Generator total reactive power. Measured in [kVAR]. Positive value means generated inductive reactive power
524	S_{L1}	Generator apparent power. Measured in [kVA]. Positive value means generated inductive reactive power
525	S_{L2}	Generator apparent power. Measured in [kVA]. Positive value means generated inductive reactive power
526	S_{L3}	Generator apparent power. Measured in [kVA]. Positive value means generated inductive reactive power
527	S_{GEN}	Generator total apparent power. Measured in [kVA]. Positive value means generated inductive reactive power
528 [HI]		Reserved

Address	Content	Type
		ML-2
529 [LO]		
530 531		Reserved
532 533		Reserved
534 535		Reserved
536 [HI] 537 [LO]	E _{GEN}	Total energy counter. Measured in [kWh]. Max. 300000MWh
538	Cos ϕ	-99...0...100 Generator cos ϕ . Measured in cos ϕ x 100. Negative value means capacitive cos ϕ
539	U _{L1-L2}	Mains voltage. Measured in [V]
540	U _{L2-L3}	Mains voltage. Measured in [V]
541	U _{L3-L1}	Mains voltage. Measured in [V]
542	U _{L1-N}	Mains voltage. Measured in [V]
543	U _{L2-N}	Mains voltage. Measured in [V]
544	U _{L3-N}	Mains voltage. Measured in [V]
545	f _{Mains}	Mains freq. Measured in [Hz/100]
546		Reserved
547		Reserved
548		Reserved
549		Reserved
550		Reserved
551		Reserved
552		Reserved
553		Reserved
554 [HI] 555[LO]	Running time	Absolute running hour counter
556 567		Reserved
558		Number of alarms
559		Number of unacknowledged alarms
560		Number of acknowledged active alarms
561		Reserved
562		Reserved
563	GB _{oper}	Generator/circuit breaker operations counter
564	MB _{oper}	Mains breaker operation counter
566	Start attempts	Number of start attempts
567	U _{SUPPLY}	Supply voltage. Measured in [V/10]
568		Reserved
569	Service timer	Service timer 1 (running hours)
570	Service timer	Service timer 1 (days)
571	Service timer	Service timer 2 (running hours)
572	Service timer	Service timer 2 (days)
576	RPM	Running feedback RPM

Address	Content	Type
		ML-2
580	Multi input	Multi input 2, unscaled
581	Multi input	Multi input 3, unscaled
582	Multi input	Multi input 1, unscaled
583	Multi input	Multi input 2, scaled
584	Multi input	Multi input 3, scaled
585	Multi input	Multi input 1, scaled
586		Reserved
587		Reserved
588		Reserved
589		Reserved
592		Reserved
593	Engine communication	Refer to option H5/H7 manual
594	Engine communication	Refer to option H5/H7 manual
595	Engine communication	Refer to option H5/H7 manual
596	Engine communication	Refer to option H5/H7 manual
597	Engine communication	Refer to option H5/H7 manual
598	Engine communication	Refer to option H5/H7 manual
599	Engine communication	Refer to option H5/H7 manual
600	Engine communication	Refer to option H5/H7 manual
601	Engine communication	Refer to option H5/H7 manual
602	Engine communication	Refer to option H5/H7 manual
603	Engine communication	Refer to option H5/H7 manual
604	Engine communication	Refer to option H5/H7 manual
605	Engine communication	Refer to option H5/H7 manual
606	Engine communication	Refer to option H5/H7 manual
607	Engine communication	Refer to option H5/H7 manual
608	Engine communication	Refer to option H5/H7 manual
609	Engine communication	Refer to option H5/H7 manual
610	Engine communication	Refer to option H5/H7 manual
611	Engine communication	Refer to option H5/H7 manual
612	Engine communication	Refer to option H5/H7 manual
613	Engine communication	Refer to option H5/H7 manual
614	Engine communication	Refer to option H5/H7 manual
615	Engine communication	Refer to option H5/H7 manual
616	Engine communication	Refer to option H5/H7 manual
617	Engine communication	Refer to option H5/H7 manual
618	Engine communication	Refer to option H5/H7 manual
642		Reserved
643		Reserved
644		Reserved
645		Reserved
646		Reserved
647		Reserved
648		Reserved

Address	Content	Type
		ML-2
649		Reserved
650-999		NOT USED

Alarm and status table (read only) (function code 04h)

Address	Content	Type			
1000	Protection alarms	Bit 0	1000	G -P> 1	
		Bit 1		Reserved	
		Bit 2	1020	Reserved	
		Bit 3	1030	G I> 1	
		Bit 4	1040	G I> 2	
		Bit 5		Reserved	
		Bit 6		Reserved	
		Bit 7	1090	Reserved	
		Bit 8	1120	Reserved	
		Bit 9		Reserved	
		Bit 10		Reserved	
		Bit 11	1150	G U> 1	
		Bit 12		Reserved	
		Bit 13	1170	G U< 1	
		Bit 14		Reserved	
		Bit 15		Reserved	
1001	Protection alarms	Bit 0	1210	G f> 1	
		Bit 1		Reserved	
		Bit 2		Reserved	
		Bit 3		Reserved	
		Bit 4		Reserved	
		Bit 5		Reserved	
		Bit 6		Reserved	
		Bit 7		Reserved	
		Bit 8		Reserved	
		Bit 9		Reserved	
		Bit 10		Reserved	
		Bit 11		Reserved	
		Bit 12		Reserved	
		Bit 13		Reserved	
		Bit 14		Reserved	
		Bit 15		Reserved	
1002	Protection alarms	Bit 0		Reserved	
		Bit 1		Reserved	
		Bit 2		Reserved	
		Bit 3		Reserved	
		Bit 4		Reserved	
		Bit 5		Reserved	
		Bit 6		Reserved	
		Bit 7		Reserved	
		Bit 8		Reserved	
		Bit 9		Reserved	
		Bit 10		Reserved	
		Bit 11		Reserved	
		Bit 12		Reserved	
		Bit 13		Reserved	
		Bit 14		Reserved	
		Bit 15		Reserved	
1003	Protection alarms	Bit 0		Reserved	
		Bit 1		Reserved	
		Bit 2		Reserved	
		Bit 3		Reserved	
		Bit 4		NOT USED	
		Bit 5		NOT USED	

Address	Content	Type		
		Bit 6		NOT USED
		Bit 7	1620	Main unbalanced voltage
		Bit 8		NOT USED
		Bit 9		NOT USED
		Bit 10		NOT USED
		Bit 11		NOT USED
		Bit 12		NOT USED
		Bit 13		NOT USED
		Bit 14		NOT USED
		Bit 15		NOT USED
1004	Protection alarms			Reserved
1005	Synchronisational arms	Bit 0		Reserved
		Bit 1		Reserved
		Bit 2		Reserved
		Bit 3	2150	Phase seq error
		Bit 4	2160	GB open failure
		Bit 5	2170	GB close failure
		Bit 6		GB pos failure
		Bit 7	2200	MB open failure
		Bit 8	2210	MB close failure
		Bit 9		MB pos failure
		Bit 10		Reserved
		Bit 11		NOT USED
		Bit 12		NOT USED
		Bit 13		NOT USED
		Bit 14		NOT USED
		Bit 15		NOT USED
1006	Regulation alarms	Bit 0		Reserved
		Bit 1		Reserved
		Bit 2		Reserved
		Bit 3		NOT USED
		Bit 4		NOT USED
		Bit 5		NOT USED
		Bit 6		NOT USED
		Bit 7		NOT USED
		Bit 8		NOT USED
		Bit 9		NOT USED
		Bit 10		NOT USED
		Bit 11		NOT USED
		Bit 12		NOT USED
		Bit 13		NOT USED
		Bit 14		NOT USED
		Bit 15		NOT USED
1007	Digital inputs	Bit 0	3000	Dig. input 10
		Bit 1	3010	Dig. input 11
		Bit 2	3020	Dig. input 12
		Bit 3	3030	Dig. input 13
		Bit 4	3040	Dig. input 14
		Bit 5	3050	Dig. input 15
		Bit 6		Reserved
		Bit 7		Reserved
		Bit 8		Reserved
		Bit 9		Reserved
		Bit 10		Reserved
		Bit 11		Reserved
		Bit 12		Reserved
		Bit 13		NOT USED
		Bit 14		NOT USED

Address	Content	Type		
1008	Digital inputs	Bit 15		NOT USED
		Bit 0		Reserved
		Bit 1		Reserved
		Bit 2		Reserved
		Bit 3		Reserved
		Bit 4		Reserved
		Bit 5		Reserved
		Bit 6		Reserved
		Bit 7		Reserved
		Bit 8		Reserved
		Bit 9		Reserved
		Bit 10		Reserved
		Bit 11		Reserved
		Bit 12		Reserved
		Bit 13		NOT USED
		Bit 14		NOT USED
		Bit 15		NOT USED
1009	Digital inputs	Bit 0		Reserved
		Bit 1		Reserved
		Bit 2		Reserved
		Bit 3		Reserved
		Bit 4		Reserved
		Bit 5		Reserved
		Bit 6		Reserved
		Bit 7		Reserved
		Bit 8		Reserved
		Bit 9		Reserved
		Bit 10		Reserved
		Bit 11		Reserved
		Bit 12		Reserved
		Bit 13		Reserved
		Bit 14		NOT USED
		Bit 15		NOT USED
1010	Protection alarms	Bit 0	3400	Dig. multi input term. 7
		Bit 1	3410	Dig. multi input term. 8
		Bit 2	3420	Dig. multi input term. 6
		Bit 3	3404	Wire failure, dig. multi input term. 7
		Bit 4	3404	Wire failure, dig. multi input term. 8
		Bit 5	3424	Wire failure, dig. multi input term. 6
		Bit 6		Reserved
		Bit 7		Reserved
		Bit 8		Reserved
		Bit 9		Reserved
		Bit 10		Reserved
		Bit 11		Reserved
		Bit 12	3490	Dig. input 19-20/Emergency STOP
		Bit 13		NOT USED
		Bit 14		NOT USED
		Bit 15		NOT USED
1011	Protection alarms	Bit 0		Reserved
		Bit 1		Reserved
		Bit 2		Reserved
		Bit 3		Reserved
		Bit 4		Reserved
		Bit 5		Reserved
		Bit 6		Reserved
		Bit 7		NOT USED
		Bit 8		NOT USED

Address	Content	Type		
		Bit 9		NOT USED
		Bit 10		NOT USED
		Bit 11		NOT USED
		Bit 12		NOT USED
		Bit 13		NOT USED
		Bit 14		NOT USED
		Bit 15		NOT USED
1012	Analogue inputs	Bit 0		Reserved
		Bit 1		Reserved
		Bit 2		Reserved
		Bit 3		Reserved
		Bit 4		Reserved
		Bit 5		Reserved
		Bit 6		Reserved
		Bit 7		Reserved
		Bit 8		Reserved
		Bit 9		Reserved
		Bit 10		Reserved
		Bit 11		Reserved
		Bit 12		
		Bit 13		
		Bit 14		NOT USED
		Bit 15		NOT USED
1013	Analogue inputs	Bit 0		Multi input 1.1
		Bit 1		Multi input 1.2
		Bit 2		W. failure, multi input 1
		Bit 3		Multi input 2.1
		Bit 4		Multi input 2.2
		Bit 5		W. failure, multi input 2
		Bit 6		Multi input 3.1
		Bit 7		Multi input 3.2
		Bit 8		W. failure, multi input 3
		Bit 9	4510	Overspeed 1
		Bit 10	4520	Overspeed 2
		Bit 11	4620	VDO fuel level 1.3
		Bit 12	4610	Charger generator
		Bit 13	4600	V-belt
		Bit 14	4560	Generator Hz/V failure
		Bit 15		Start failure
1014	Analogue inputs	Bit 0	4580	Stop failure
		Bit 1	4960	U< aux. supply term. 1
		Bit 2	4970	U> aux. supply term. 1
		Bit 3		Reserved
		Bit 4		Reserved
		Bit 5	4610	Charger gen
		Bit 6		NOT USED
		Bit 7		NOT USED
		Bit 8		NOT USED
		Bit 9		NOT USED
		Bit 10		NOT USED
		Bit 11		NOT USED
		Bit 12		NOT USED
		Bit 13		NOT USED
		Bit 14		NOT USED
		Bit 15		NOT USED
1015	System/general alarms	Bit 0	6110	Service timer 1
		Bit 1	6120	Service timer 2
		Bit 2		Reserved

Address	Content	Type		
		Bit 3		Reserved
		Bit 4		Reserved
		Bit 5		Reserved
		Bit 6		Reserved
		Bit 7		Reserved
		Bit 8		Reserved
		Bit 9		Reserved
		Bit 10		Reserved
		Bit 11		Reserved
		Bit 12		Reserved
		Bit 13		Fuel fill check
		Bit 14		NOT USED
		Bit 15		NOT USED
1016	Relay outputs	Bit 0	5000	Relay 21
		Bit 1	5010	Relay 22
		Bit 2	5020	Relay 23
		Bit 3	5030	Relay 24
		Bit 4	5040	Relay 26
		Bit 5		GB ON
		Bit 6		MB ON
		Bit 7		NOT USED
		Bit 8		NOT USED
		Bit 9		NOT USED
		Bit 10		NOT USED
		Bit 11		Reserved
		Bit 12		Reserved
		Bit 13		Reserved
		Bit 14		Reserved
		Bit 15		NOT USED
1017	Relay outputs	Bit 0		Reserved
		Bit 1		Reserved
		Bit 2		Reserved
		Bit 3		Reserved
		Bit 4		Reserved
		Bit 5		Reserved
		Bit 6		Reserved
		Bit 7		Reserved
		Bit 8		Reserved
		Bit 9		Reserved
		Bit 10		Reserved
		Bit 11		Reserved
		Bit 12		Reserved
		Bit 13		Reserved
		Bit 14		Reserved
		Bit 15		Reserved
1018	Status	Bit 0		Mains failure
		Bit 1		MB pos ON
		Bit 2		Reserved
		Bit 3		Reserved
		Bit 4		GB pos ON
		Bit 5		Reserved
		Bit 6		Engine running
		Bit 7		Running detection, timer expired
		Bit 8		DG Hz/V OK, timer expired
		Bit 9		Reserved
		Bit 10		Reserved
		Bit 11		NOT USED
		Bit 12		NOT USED

Address	Content	Type		
1019		Bit 13		NOT USED
		Bit 14		NOT USED
		Bit 15		NOT USED
		Bit 0		Reserved
		Bit 1		Manual
		Bit 2		Reserved
		Bit 3		Auto
		Bit 4		Test
		Bit 5		Island
		Bit 6		AMF
		Bit 7		Reserved
		Bit 8		Reserved
		Bit 9		Reserved
		Bit 10		Reserved
		Bit 11		NOT USED
		Bit 12		NOT USED
		Bit 13		NOT USED
		Bit 14		NOT USED
		Bit 15		AMF active
1020	Engine communication	Bit 0		EIC comm. error
		Bit 1		EIC warning
		Bit 2		EIC shutdown
		Bit 3		EIC overspeed
		Bit 4		EIC coolant temp. 1
		Bit 5		EIC coolant temp. 2
		Bit 6		EIC oil pressure 1
		Bit 7		EIC oil pressure 2
		Bit 8		NOT USED
		Bit 9		NOT USED
		Bit 10		NOT USED
		Bit 11		NOT USED
		Bit 12		NOT USED
		Bit 13		NOT USED
		Bit 14		NOT USED
		Bit 15		NOT USED
1021-1023	Engine communication			Reserved
1024	Engine communication	Bit 0		Refer to option H5/H7 manual for bit 0-13
		Bit 1		
		Bit 2		
		Bit 3		
		Bit 4		
		Bit 5		
		Bit 6		
		Bit 7		
		Bit 8		
		Bit 9		
		Bit 10		
		Bit 11		
		Bit 12		
		Bit 13		
		Bit 14		NOT USED
		Bit 15		NOT USED

Control register table read(03h)/write(10h)

Address	Content	Description	Available in
0			
1			
2			
3			
4			
5	Control command	Bit 0 This bit must be 1 when writing the command word. If the bit is 0, the control command is ignored Bit 1 Start Bit 2 GB ON Bit 3 GB OFF Bit 4 Stop Bit 5 Bit 6 Bit 7 Bit 8 Bit 9 Bit 10 Alarm ack. This bit is automatically reset. Bit 11 Nominal setting 1 Bit 12 Nominal setting 2 Bit 13 Nominal setting 3 Bit 14 Nominal setting 4 Bit 15	GC-1F
6	Control command	Bit 0 This bit must be 1 when writing the command word. If the bit is 0, the control command is ignored Bit 1 Island Bit 2 Automatic mains failure (AMF) Bit 3 Bit 4 Bit 5 Bit 6 Bit 7 Bit 8 Bit 9 MB ON Bit 10 MB OFF Bit 11 Bit 12 Manual mode Bit 13 Bit 14 Auto mode Bit 15 Test	GC-1F
7		Reserved	
8-13		NOT USED	

Command flags table (write only) (function code 0Fh)

Address	Content	Description	Available in
0	NOT USED		GC-1F
1	Start	These bits are automatically reset in multi-line 2	
2	GB ON		
3	GB OFF		
4	Stop		
5	Reserved		
6	NOT USED		
7	Reserved		
8	Reserved		
9	Reserved		
10	Alarm ack.		
11	Nominal setting 1		
12	Nominal setting 2		
13	Nominal setting 3		
14	Nominal setting 4		
15	NOT USED		GC-1F
16	NOT USED		
17	Island		
18	Automatic mains failure (AMF)		
19	Reserved		
20	Reserved		
21	Reserved		
22	Reserved		
23	NOT USED		
24	NOT USED		
25	MB ON		
26	MB OFF		
27	Reserved		
28	Manual mode		
29	Reserved		
30	Auto mode		
31	Test		GC-1F
32	NOT USED		
33	Reserved		
34	Reserved		
35	Reserved		
36	Reserved		
37	Reserved		
38	NOT USED		
39	NOT USED		
40	NOT USED		
41	NOT USED		

Address	Content	Description	Available in
42	NOT USED		
43	NOT USED		
44	NOT USED		
45	NOT USED		
46	Reserved		
47	Reserved		

Status flags table (read only) (function code 02h)

Address	Content	Description
0	GB position ON	
1	MB position ON	
2	NOT USED	
3	Running	
4	Generator voltage/frequency OK	
5	Mains failure	
6	Reserved	
7	Manual mode	
8	Reserved	
9	Auto mode	
10	Test	
11	Reserved	
12	Reserved	
13	Island	
14	Automatic mains failure (AMF)	
15	Reserved	
16	Reserved	
17	Reserved	
18	Reserved	
19	Reserved	
20	Reserved	
21	Reserved	
22	Reserved	
23	Reserved	
24	Reserved	
25	Reserved	
26	Reserved	
27	Reserved	
28	Reserved	
29	Reserved	
30	Reserved	
31	Reserved	
32	Reserved	
33	Reserved	
34	Reserved	
35	Reserved	
36	Reserved	
37	Reserved	
38	Reserved	

5. Parameter table

Parameter table reading and writing

The entire setting of parameters can be made using the Modbus. The combination of function and address areas used is described below:

Function 01(01hex) read/write flag status

Reads the ON/OFF status of discrete flags in the slave unit.

Address area for reading of status flags

Multi-line 2 Data to request	Multi-line 2 Table	Address area
Command	Parameter table	0-1999
Enable	Parameter table	2000-3999



The maximum number of data query is limited by the length of the actual table.

Function 02(02hex) read flag status

Reads the ON/OFF status of discrete flags in the slave unit.

Address area for reading of status flags

Multi-line 2 Data to request	Multi-line 2 Table	Address area
Status	Status table	0-1999
Alarm active	Parameter table	4000-5999
Alarm acknowledge	Parameter table	6000-7999
Timer output	Parameter table	8000-9999
Timer running	Parameter table	10000-11999
Digital output	Digital output table	22500-22999
Digital input	Digital input table	23000-23499



The maximum number of data query is limited by the length of the actual table.

Function 03(03hex) read/write registers

Reads the binary of registers in the slave unit.

Address area for reading of registers

Multi-line 2 Data to request	Multi-line 2 Table	Address area
Control register	Parameter table	0-1999
Timers used	Parameter table	2000-3999
Values used	Parameter table	4000-4999
Values minimum	Parameter table	6000-7999
Values maximum	Parameter table	8000-9999
Output a	Parameter table	10000-11999
Output b	Parameter table	12000-13999
Fail class used	Parameter table	14000-15999
Enable	Parameter table	16000-17999
Inhibit	Parameter table	18000-19999



The maximum number of data query is limited by the length of the actual table.

Function 04(04hex) read registers

Reads the binary of registers in the slave unit.

Address area for reading of registers

Multi-line 2 Data to request	Multi-line 2 Table	Address area
Measuring values	Measuring values table	0-1999
	Configurable area	0-499
	Measurements	500-999
	Status/alarms	1000-1699
	Power management	1700-1999
Timers minimum	Parameter table	2000-3999
Timers maximum	Parameter table	4000-3999
Output a minimum	Parameter table	6000-7999
Output a maximum	Parameter table	8000-9999
Output b minimum	Parameter table	10000-11999
Output b maximum	Parameter table	12000-13999
Fail class minimum	Parameter table	14000-15999
Fail class maximum	Parameter table	16000-17999



The maximum number of data query is limited by the length of the actual table.

Function 15(0Fhex) write multiple flags

Writes each flag (0 x reference) in a sequence of flags to either ON or OFF.

Address area for writing of status flags

Multi-line 2 Data to request	Multi-line 2 Table	Address area
Command	Parameter table	0-1999
Enable	Parameter table	2000-3999

Function 16(10hex) write register

Writes values into a sequence of registers.

Address area for writing of registers

Multi-line 2 Data to request	Multi-line 2 Table	Address area
Control register	Parameter table	0-99
Timers used	Parameter table	2000-3999
Values used	Parameter table	4000-4999
Output a	Parameter table	10000-11999
Output b	Parameter table	12000-13999
Fail class used	Parameter table	14000-15999
Enable	Parameter table	16000-17999
Inhibit	Parameter table	18000-19999



The maximum number of data query is limited by the length of the actual table.

Parameter table

Address and channel number overview

Offset address	Ch. no.	Content	Comment	Value unit	Delay unit
0	-	-		-	-
1	1000	G -P> 1		%/10	1/10s
2		Reserved			
3		Reserved			
4	1030	G l> 1		%/10	1/10s
5	1040	G l> 2		%/10	1/10s
6		Reserved			
7		Reserved			
8	1090	Reserved			
9	1120	Reserved			
10		Reserved			
11					
12	1150	G U> 1		%/10	1/10s
13		Reserved			
14	1170	G U< 1		%/10	1/10s
15		Reserved			
16		Reserved			
17		Reserved			
18	1210	G f> 1		%/10	1/10s
19		Reserved			
20		Reserved			
21	1240	G f< 1		%/10	1/10s
22		Reserved			
23		Reserved			
24		Reserved			
25		Reserved			
26		Reserved			
27		Reserved			
28		Reserved			
29		Reserved			
30		Reserved			
31		Reserved			
32		Reserved			
33		Reserved			
34		Reserved			
35		Reserved			
36		Reserved			
37		Reserved			
38		Reserved			
39		Reserved			

Offset address	Ch. no.	Content	Comment	Value unit	Delay unit
40		Reserved			
41		Reserved			
42		Reserved			
43		Reserved			
44		Reserved			
45		Reserved			
46		Reserved			
47		Reserved			
48		Reserved			
49		Reserved			
50		Reserved			
51		Reserved			
52		Reserved			
53		Reserved			
54		Reserved			
55		Reserved			
56		Reserved			
57		Reserved			
58		Reserved			
59		Reserved			
60	1620	Mains U unbalanced			
61	1630	Phase neutral readings on/off			
62		Reserved			
63		Reserved			
64		Reserved			
65		Reserved			
66		Reserved			
67		Reserved			
68		Reserved			
69		Reserved			
70		Reserved			
71		Reserved			
72		Reserved			
73		Reserved			
74		Reserved			
75		Reserved			
76		Reserved			
77		Reserved			
78		Reserved			
79		Reserved			
80		Reserved			
81		Reserved			
82		Reserved			
83		Reserved			

Offset address	Ch. no.	Content	Comment	Value unit	Delay unit
84		Reserved			
85		Reserved			
86		Reserved			
87		Reserved			
88		Reserved			
89		Reserved			
90		Reserved			
91		Reserved			
92		Reserved			
93		Reserved			
94		Reserved			
95		Reserved			
96		Reserved			
97		Reserved			
98		Reserved			
99		Reserved			
100	2150	Phase seq. error		n	1/10s
101	2160	GB open failure		n	1/10s
102	2170	GB close failure		n	1/10s
103		Reserved			
104		Reserved			
105		Reserved			
106		Reserved			
107	2200	MB open failure		n	1/10s
108	2210	MB close failure		n	1/10s
109		Reserved			
110		Reserved			
111		Reserved			
112		Reserved			
113		Reserved			
114		Reserved			
115		Reserved			
116		Reserved			
117		Reserved			
118		Reserved			
119		Reserved			
120		Reserved			
121		Reserved			
122		Reserved			
123		Reserved			
124		Reserved			
125		Reserved			
126		Reserved			
127		Reserved			

Offset address	Ch. no.	Content	Comment	Value unit	Delay unit
128		Reserved			
129		Reserved			
130		Reserved			
131		Reserved			
132		Reserved			
133		Reserved			
134		Reserved			
135		Reserved			
136		Reserved			
137		Reserved			
138		Reserved			
139		Reserved			
140		Reserved			
141		Reserved			
142		Reserved			
143		Reserved			
144		Reserved			
145		Reserved			
146		Reserved			
147		Reserved			
148		Reserved			
149		Reserved			
150		Reserved			
151		Reserved			
152		Reserved			
153		Reserved			
154		Reserved			
155		Reserved			
156		Reserved			
157		Reserved			
158		Reserved			
159		Reserved			
160		Reserved			
161		Reserved			
162		Reserved			
163		Reserved			
164		Reserved			
165		Reserved			
166		Reserved			
167		Reserved			
168		Reserved			
169		Reserved			
170		Reserved			
171		Reserved			

Offset address	Ch. no.	Content	Comment	Value unit	Delay unit
172		Reserved			
173		Reserved			
174		Reserved			
175		Reserved			
176		Reserved			
177		Reserved			
178		Reserved			
179		Reserved			
180		Reserved			
181		Reserved			
182		Reserved			
183		Reserved			
184		Reserved			
185	3000	Dig. input 1		n	1/10s
186	3010	Dig. input 2		n	1/10s
187	3020	Dig. input 3		n	1/10s
188	3030	Dig. input 4		n	1/10s
189	3040	Dig. input 5		n	1/10s
190	3060	Dig. input 6		n	1/10s
191		Reserved			
192		Reserved			
193		Reserved			
194		Reserved			
195		Reserved			
196		Reserved			
197		Reserved			
198		Reserved			
199		Reserved			
200		Reserved			
201		Reserved			
202		Reserved			
203		Reserved			
204		Reserved			
205		Reserved			
206		Reserved			
207		Reserved			
208		Reserved			
209		Reserved			
210		Reserved			
211		Reserved			
212		Reserved			
213		Reserved			
214		Reserved			
215		Reserved			

Offset address	Ch. no.	Content	Comment	Value unit	Delay unit
216		Reserved			
217		Reserved			
218		Reserved			
219		Reserved			
220		Reserved			
221		Reserved			
222		Reserved			
223		Reserved			
224	3400	Dig. multi input 1		n	1/10s
225	3410	Dig. multi input 2		n	1/10s
226	3420	Dig. multi input 3		n	1/10s
227	3401	Wire failure, dig. multi input 1		n	n
228	3411	Wire failure, dig. multi input 2		n	n
229	3421	Wire failure, dig. multi input 3		n	n
230		Reserved			
231		Reserved			
232		Reserved			
233		Reserved			
234		Reserved			
235		Reserved			
236	3490	Emergency stop		n	1/10s
237		Reserved			
238		Reserved			
239		Reserved			
240		Reserved			
241		Reserved			
242		Reserved			
243		Reserved			
244		Reserved			
245		Reserved			
246		Reserved			
247		Reserved			
248		Reserved			
249		Reserved			
250		Reserved			
251		Reserved			
252		Reserved			
253		Reserved			
254		Reserved			
255		Reserved			
256		Reserved			
257		Reserved			
258		Reserved			

Offset address	Ch. no.	Content	Comment	Value unit	Delay unit
259		Reserved			
260		Reserved			
261		Reserved			
262		Reserved			
263		Reserved			
264		Reserved			
265		Reserved			
266		Reserved			
267		Reserved			
268	4120	0-20/4-20mA no.1.1		mA	1/10s
269	4140	0-20/4-20mA 1 unit			
270		Reserved			
271		Reserved			
272		Reserved			
273	4220	VDO fuel level 1.1			
274	4130	0-20/4-20mA no.1.2		mA	1/10s
275		Reserved			
276		Reserved			
277		Reserved			
278		Reserved			
279	4230	VDO fuel level 1.2			
280	4250	0-20/4-20mA no. 2.1		mA	1/10s
281	4270	0-20/4-20mA 2 unit		V/10	1/10s
282				Deg.	1/10s
283	4310	VDO oil 2.1		Press.	1/10s
284				Deg.	1/10s
285				%	1/10s
286	4260	0-20/4-20mA no. 2.2		mA	1/10s
287				V/10	1/10s
288				Deg.	1/10s
289	4320	VDO oil 2.2		Press.	1/10s
290				Deg.	1/10s
291				%	1/10s
292	4380	0-20/4-20mA no. 3.1		mA	1/10s
293	4400	0-20/4-20mA 1 unit		V/10	1/10s
294				Deg.	1/10s
295				Press.	1/10s
296	4460	VDO water temp. 3.1		Deg.	1/10s
297				%	1/10s
298	4390	0-20/4-20mA no. 3.2		mA	1/10s
299				V/10	1/10s
300				Deg.	1/10s
301				Press.	1/10s
302	4470	VDO water temp. 3.2		Deg.	1/10s

Offset address	Ch. no.	Content	Comment	Value unit	Delay unit
303				%	1/10s
304		Reserved			
305		Reserved			
306		Reserved			
307	4510	Overspeed 1		%/10	1/10s
308	4520	Overspeed 2		%/10	1/10s
309	4620	Fuel level 1.3		%/10	1/10s
310	4610	Charger gen		n	1/10s
311	4600	V-belt		n	1/10s
312	4550	Hz/V failure		n	1/10s
313		Reserved			
314	4630	Low coolant temp VDO 3.3		Deg.	1/10s
315	4960	U< aux. supply term. 1		V/10	1/10s
316	4970	U> aux. supply term. 1		V/10	1/10s
317		Reserved			
318		Reserved			
319	5000	Relay 21		0: Alarm 1: Limit	1/10s
320	5010	Relay 22			1/10s
321	5020	Relay 23			1/10s
322	5030	Relay 24			1/10s
323	5040	Relay 26			1/10s
324		Reserved			
325		Reserved			
326		Reserved			
327		Reserved			
328		Reserved			
329		Reserved			
330		Reserved			
331		Reserved			
332		Reserved			
333		Reserved			
334		Reserved			
335		Reserved			
336		Reserved			
337		Reserved			
338		Reserved			
339		Reserved			
340		Reserved			
341		Reserved			
342		Reserved			
343		Reserved			
344		Reserved			
345		Reserved			
346		Reserved			

Offset address	Ch. no.	Content	Comment	Value unit	Delay unit
347		Reserved			
348		Reserved			
349		Reserved			
350		Reserved			
351		Reserved			
352		Reserved			
353		Reserved			
354		Reserved			
355		Reserved			
356		Reserved			
357		Reserved			
358		Reserved			
359		Reserved			
360		Reserved			
361		Reserved			
362		Reserved			
363		Reserved			
364		Reserved			
365		Reserved			
366		Reserved			
367		Reserved			
368		Reserved			
369		Reserved			
370		Reserved			
371		Reserved			
372		Reserved			
373		Reserved			
374		Reserved			
375		Reserved			
376		Reserved			
377		Reserved			
378		Reserved			
379		Reserved			
380		Reserved			
381		Reserved			
382		Reserved			
383		Reserved			
384		Reserved			
385		Reserved			
386		Reserved			
387		Reserved			
388		Reserved			
389		Reserved			
390		Reserved			

Offset address	Ch. no.	Content	Comment	Value unit	Delay unit
391		Reserved			
392		Reserved			
393		Reserved			
394		Reserved			
395		Reserved			
396		Reserved			
397		Reserved			
398		Reserved			
399		Reserved			
400		Reserved			
401		Reserved			
402		Reserved			
403		Reserved			
404		Reserved			
405		Reserved			
406		Reserved			
407	6001	Nom. frequency 1		Hz/10	n
408	6002	Nom. power 1		kW	n
409	6003	Nom. current 1		A	n
410	6004	Nom. voltage 1		V	n
411	6005	Nom. RPM 1		RPM	n
412	6006	Parameter set	0: Nom. set 1, 1: Nom. set 2, 2: Nom. set 3, 3: Nom. set 4		n
413	6011	Nom. frequency 2		Hz/10	n
414	6012	Nom. power 2		kW	n
415	6013	Nom. current 2		A	n
416	6014	Nom. voltage 2		V	n
417	6015	Nom. RPM 2		RPM	n
418	6021	Nom. frequency 3		Hz/10	n
419	6022	Nom. power 3		kW	n
420	6023	Nom. current 3		A	n
421	6024	Nom. voltage 3		V	n
422	6025	Nom. RPM 3		RPM	n
423	6031	Nom. frequency 4		Hz/10	n
424	6032	Nom. power 4		kW	n
425	6033	Nom. current 4		A	n
426	6034	Nom. voltage 4		V	n
427	6035	Nom. RPM 4		RPM	n
428	6041	G transformer, U primary		V	n
429	6042	G transformer, U secondary		V	n
430	6043	G transformer, I primary		A	n
431	6044	G transformer, I secondary		A	n
432	6051	BB transformer, U primary		V	n
433	6052	BB transformer, U secondary		V	n
434		Reserved			

Offset address	Ch. no.	Content	Comment	Value unit	Delay unit
435	6070	Gen-set mode	0: Island, 1: AMF		n
436	6080	Language		n	n
437	6103	GB operations		n	n
438	6104	MB operations		n	n
439	6101	Running hours offset		Hrs	n
440		Reserved			
441	6105	Reset kWh counter		n	n
442		Reserved			
443	6112	Service timer 1, hours		Hrs	n
444	6113	Service timer 1, days		Days	n
445	6116	Service timer 1, reset		n	n
446	6122	Service timer 2, hours		Hrs	n
447	6123	Service timer 2, days		Days	n
448	6126	Service timer 2, reset		n	n
449	6130	Alarm horn		n	1/10s
450		Reserved			
451		Reserved			
452	6160	Run status		n	1/10s
453	6171	No. of teeth (flywheel)		n	n
454		Reserved			
455	6173	Running detection		RPM	n
456		Reserved			
457		Reserved			
458	6181	Start prepare		n	1/10s
459		Reserved			
460	6183	Start ON time (crank)		n	1/10s
461	6184	Start OFF time (pause)		n	1/10s
462	6191	Start attempts		n	n
463		Reserved			
464		Reserved			
465		Reserved			
466	6211	Cooling down		n	1/10s
467	6212	Extended stop time		n	1/10s
468	6220	Hz/V OK		n	1/10s
469	6231	GB close delay		n	1/10s
470	6222	Hz/V OK voltage			
471	6223	Hz/V OK frequency			
472		Reserved			
473		Reserved			
474		Reserved			
475		Reserved			
476		Reserved			
477		Reserved			
478		Reserved			
479		Reserved			

Offset address	Ch. no.	Content	Comment	Value unit	Delay unit
480	6291	Start idle run	0 = off, 1 = manual mode, 2 = auto mode, 3 = manual/ auto mode	n	Min/10
481		Reserved			
482		Reserved			
483	6360	GB on water temp			
484	6550	Oil pres run detect.			
485	6950	Parameter group 1			
486	6960	Parameter group 2			
487	6970	Parameter group 3			
488	6980	Sleep mode setting			
489		Reserved			
490		Reserved			
491	6321	Engine heater on		Deg.	n
492		Reserved			
493		Reserved			
494		Reserved			
495	6330	Engine heater off		Deg.	1/10s
496		Reserved			
497		Reserved			
498		Reserved			
499		Reserved			
500		Reserved			
501		Reserved			
502		Reserved			
503		Reserved			
504		Reserved			
505		Reserved			
506		Reserved			
507		Reserved			
508		Reserved			
509		Reserved			
510		Reserved			
511		Reserved			
512		Reserved			
513		Reserved			
514		Reserved			
515		Reserved			
516		Reserved			
517		Reserved			
518		Reserved			
519		Reserved			
520		Reserved			

Offset address	Ch. no.	Content	Comment	Value unit	Delay unit
521		Reserved			
522		Reserved			
523	6551	Fuel pump, set point 1		%	1/10s
524	6552	Fuel pump, set point 2		%	n
525	6560	Cooldown timeout			1/10s
526	6940	Alarm LED function	0 = always red 1 = amber on except on shutdowns		
527		Reserved			
528		Reserved			
529		Reserved			
530		Reserved			
531		Reserved			
532		Reserved			
533		Reserved			
534		Reserved			
535		Reserved			
536		Reserved			
537		Reserved			
538	7040	AMF test function	0 = button, 1 = digital input 2 = button or digital input	n	1/10s
539		Reserved			
540		Reserved			
541		Reserved			
542		Reserved			
543		Reserved			
544	7062	Mains OK delay U		n	1/10s
545	7063	Low voltage		%	n
546	7064	High voltage		%	n
547	7065	Mains fail ctrl	0: Start eng. + open MB 1: Start eng.		n
548		Reserved			
549	7072	Mains OK delay freq		n	1/10s
550	7073	Low frequency		%	n
551	7074	High frequency		%	n
552		Reserved			
553	7082	MB close delay		n	1/10s
554		Reserved			
555		Reserved			
556		Reserved			
557	7090	Simple test function	0 = button, 1 = digital input 2 = button or digital input		
558	7110	Main failure unbalanced		n	n
559	7111	Main unbalanced fail		n	1/10s

Offset address	Ch. no.	Content	Comment	Value unit	Delay unit
560	7112	Main unbalanced OK		n	1/10s
561	7114	Main unbalanced volt		%	n
562	7511	Ext. comm. ID		n	n
563	7512	Baud rate 0=9600, 1=19200		n	n
564	7513	Comm. mode (ASCII, RTU)	0: RTU, 1: ASCII		n
565		Reserved			
566		Reserved			
567		Reserved			
568		Reserved			
569		Reserved			
570		Reserved			
571		Reserved			
572		Reserved			
573		Reserved			
574		Reserved			
575	7562	EIC, J1939	0: Off, 1: DDEC, 2: JDEC 3: Deutz EMR 4: Volvo Penta EMS 5: Scania EMS		n
576		Reserved			
577	7570	EI comm. error		n	1/10s
578	7580	EIC warning		n	1/10s
579	7590	EIC shutdown		n	1/10s
580	7600	EIC overspeed		RPM	1/10s
581	7610	EIC cooling w. temp. 1		Deg.	1/10s
582	7620	EIC cooling w. temp. 2		Deg.	1/10s
583	7630	EIC oil pressure 1		Press./10	1/10s
584	7640	EIC oil pressure 2		Press./10	1/10s
585	7650	EIC temp lube 1			
586	7660	EIC temp lube 2			
587		Reserved			
588		Reserved			
589		Reserved			
590		Reserved			
591		Reserved			
592		Reserved			
593		Reserved			
594		Reserved			
595		Reserved			
596		Reserved			
597		Reserved			
598		Reserved			
599		Reserved			
600		Reserved			
601		Reserved			

Offset address	Ch. no.	Content	Comment	Value unit	Delay unit
602		Reserved			
603		Reserved			
604		Reserved			
605		Reserved			
606		Reserved			
607		Reserved			
608		Reserved			
609		Reserved			
610		Reserved			
611		Reserved			
612		Reserved			
613		Reserved			
614		Reserved			
615		Reserved			
616		Reserved			
617		Reserved			
618		Reserved			
619		Reserved			
620		Reserved			
621		Reserved			
622		Reserved			
623		Reserved			
624		Reserved			
625		Reserved			
626		Reserved			
627		Reserved			
628		Reserved			
629		Reserved			
630		Reserved			
631		Reserved			
632		Reserved			
633		Reserved			
634		Reserved			
635		Reserved			
636		Reserved			
637		Reserved			
638		Reserved			
639		Reserved			
640		Reserved			
641		Reserved			
642		Reserved			
643		Reserved			
644		Reserved			
645		Reserved			

Offset address	Ch. no.	Content	Comment	Value unit	Delay unit
646		Reserved			
647		Reserved			
648		Reserved			
649		Reserved			
650		Reserved			
651		Reserved			
652		Reserved			
653		Reserved			
654		Reserved			
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664		Reserved			
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667		Reserved			
668		Reserved			
669		Reserved			
670		Reserved			
671		Reserved			
672		Reserved			
673		Reserved			
674		Reserved			
675		Reserved			
676		Reserved			
677		Reserved			
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681		Reserved			
682		Reserved			
683		Reserved			
684		Reserved			
685		Reserved			
686		Reserved			
687		Reserved			
688		Reserved			
689		Reserved			

Offset address	Ch. no.	Content	Comment	Value unit	Delay unit
690		Reserved			
691		Reserved			
692		Reserved			
693		Reserved			
694		Reserved			
695	9116	Customer password		n	n
696	9117	Service password		n	n
697		Reserved			
698		Reserved			
699		Reserved			
700		Reserved			
701		Reserved			
702		Reserved			
703		Reserved			
704		Reserved			
705		Reserved			
706		Reserved			
707		Reserved			
708		Reserved			
709		Reserved			
710		Reserved			
711		Reserved			
712		Reserved			
713		Reserved			
714		Reserved			
715		Reserved			
716		Reserved			
717		Reserved			
718		Reserved			
719		Reserved			
720		Reserved			
721		Reserved			
722		Reserved			
723		Reserved			
724		Reserved			
725		Reserved			
726		Reserved			
727		Reserved			
728		Reserved			
729		Reserved			
730		Reserved			
731		Reserved			
732	10320	Pin code GSM		n	n
733	10330	SMS phone no. 1 GSM		n	n

Offset address	Ch. no.	Content	Comment	Value unit	Delay unit
734	10340	SMS phone no. 2 GSM		n	n
735	10350	SMS phone no. 3 GSM		n	n
736	10360	SMS phone no. 4 GSM		n	n
737	10370	SMS phone no. 5 GSM		n	n
738		Reserved			
739		Reserved			
740		Reserved			
741		Reserved			
742		Reserved			
743		Reserved			
744		Reserved			
745		Reserved			
746	10460	VDO 1 type	0: Type 1, 1: Type 2, 2: Type 3: Config.		n
747	10470	VDO 1 value 1		Ohm/10	n
748	10490	VDO 1 value 2		Ohm/10	n
749	10510	VDO 1 value 3		Ohm/10	n
750	10530	VDO 1 value 4		Ohm/10	n
751	10550	VDO 1 value 5		Ohm/10	n
752	10570	VDO 1 value 6		Ohm/10	n
753	10590	VDO 1 value 7		Ohm/10	n
754	10610	VDO 1 value 8		Ohm/10	n
755	10480	VDO 1 output 1		1/10	n
756	10500	VDO 1 output 2		1/10	n
757	10520	VDO 1 output 3		1/10	n
758	10540	VDO 1 output 4		1/10	n
759	10560	VDO 1 output 5		1/10	n
760	10580	VDO 1 output 6		1/10	n
761	10600	VDO 1 output 7		1/10	n
762	10620	VDO 1 output 8		1/10	n
763	10630	VDO 2 type	0: Type 1, 1: Type 2, 2: Type 3: Config.		n
764	10640	VDO 2 value 1		Ohm/10	n
765	10660	VDO 2 value 2		Ohm/10	n
766	10680	VDO 2 value 3		Ohm/10	n
767	10700	VDO 2 value 4		Ohm/10	n
768	10720	VDO 2 value 5		Ohm/10	n
769	10740	VDO 2 value 6		Ohm/10	n
770	10760	VDO 2 value 7		Ohm/10	n
771	10780	VDO 2 value 8		Ohm/10	n
772	10650	VDO 2 output 1		1/10	n
773	10670	VDO 2 output 2		1/10	n
774	10690	VDO 2 output 3		1/10	n
775	10710	VDO 2 output 4		1/10	n
776	10730	VDO 2 output 5		1/10	n

Offset address	Ch. no.	Content	Comment	Value unit	Delay unit
777	10750	VDO 2 output 6		1/10	n
778	10770	VDO 2 output 7		1/10	n
779	10790	VDO 2 output 8		1/10	n
780	10800	VDO 3 type	0: Type 1, 1: Type 2, 2: Type 3: Config.		n
781	10810	VDO 3 value 1		Ohm/10	n
782	10830	VDO 3 value 2		Ohm/10	n
783	10850	VDO 3 value 3		Ohm/10	n
784	10870	VDO 3 value 4		Ohm/10	n
785	10890	VDO 3 value 5		Ohm/10	n
786	10910	VDO 3 value 6		Ohm/10	n
787	10930	VDO 3 value 7		Ohm/10	n
788	10950	VDO 3 value 8		Ohm/10	n
789	10820	VDO 3 output 1		1/10	n
790	10840	VDO 3 output 2		1/10	n
791	10860	VDO 3 output 3		1/10	n
792	10880	VDO 3 output 4		1/10	n
793	10900	VDO 3 output 5		1/10	n
794	10920	VDO 3 output 6		1/10	n
795	10940	VDO 3 output 7		1/10	n
796	10960	VDO 3 output 8		1/10	n
797	10970	Engineering units	0: Bar/Celsius, 1: Psi/Fahrenheit		n
798	10980	Multi input 102, config.	0 = VDO 1 = 4-20mA 2 = 0-20mA 3 = Binary		n
799	10990	Multi input 105, config.			n
800	11000	Multi input 108, config.			n
801		Reserved			
802		Reserved			
803		Reserved			
804		Reserved			
805		Reserved			
806		Reserved			
807		Reserved			
808		Reserved			
809		Reserved			
810		Reserved			
811		Reserved			
812		Reserved			
813		Reserved			
814		Reserved			
815		Reserved			
816		Reserved			
817		Reserved			
818		Reserved			
819		Reserved			

Offset address	Ch. no.	Content	Comment	Value unit	Delay unit
820		Reserved			
821		Reserved			
822		Reserved			
823		Reserved			
824		Reserved			
825		Reserved			
826		Reserved			
827		Reserved			
828		Reserved			
829		Reserved			
830		Reserved			
831		Reserved			
832		Reserved			
833		Reserved			
834		Reserved			
835		Reserved			
836		Reserved			
837		Reserved			
838		Reserved			
839		Reserved			
840		Reserved			
841		Reserved			
842		Reserved			
843		Reserved			
844		Reserved			
845		Reserved			
846		Reserved			
847		Reserved			
848		Reserved			
849		Reserved			
850		Reserved			
851		Reserved			
852		Reserved			
853		Reserved			
854		Reserved			
855		Reserved			
856		Reserved			
857		Reserved			
858		Reserved			
859		Reserved			
860		Reserved			
861		Reserved			
862		Reserved			
863		Reserved			

Offset address	Ch. no.	Content	Comment	Value unit	Delay unit
864		Reserved			
865		Reserved			
866		Reserved			
867		Reserved			
868		Reserved			
869		Reserved			
870		Reserved			

Please refer to the Designer's Reference Handbook for information about:



- Availability of channels
- Min./max. settings
- Factory settings

Note that several channels also depend on the options.

Limitations

It is possible to write to channels, where the option is not activated. It is not possible to enable the channel. E.g. if an attempt is made to write a '1' to the enable flag, then the '1' will be discarded, and the enable flag remains '0'. It is not possible to write to offset address 0. These values are used for DEIF internal version control.

Abbreviations

These abbreviations are used in the tables:

- 'y' means that the channel is writeable.
- 'n' means that a '0' can be written to the channel only.
- 'n10' means that only the value 10 can be written.

Examples

Write nominal frequency (6011), offset 258, 60Hz

ID = 1, 60Hz = 600Hz/10 = 0258h

Address 4000 + 258 = 4258d = 10A2h

Tx: 01h 10h 10h A2h 00h 01h 02h 02h 58h AEh 49h

Rx: 01h 10h 10h A2h 00h 01h A4h EBh

Read nominal frequency (6011) offset 258, 60Hz

Tx: 01h 03h 10h A2h 00h 01h 21h 28h

Rx: 01h 03h 02h 02h 58h B8h DEh

Read 0258h = 600d

Digital input table (read only 01h)

Address	Description	
22501		
22502		
22503		
22504		
22505		
22506		
22507		
22508		
22509		
22510		
22511		
22512		
22513		
22514		
22515	NOT USED	
22516		
22517		
22518		
22519		
22520		
22521		
22522	NOT USED	
22523		
22524		
22525		
22526		
22527		
22528		
22529		
22530		
22531		
22532		
22533		
22534		
22535		
22536		
22537		
22538		
22539		
22540		
22541		
22542	Dig. input term. 10	

Address	Description	
22543	Dig. input term. 11	Standard
22544	Dig. input term. 12	
22545	Dig. input term. 13	
22546	Dig. input term. 14	
22547	Dig. input term. 15	
22548	NOT USED	
22549	NOT USED	
22550	NOT USED	
22551	NOT USED	
22552	NOT USED	
22553	NOT USED	
22554	NOT USED	
22555	NOT USED	
22556	NOT USED	
22557	NOT USED	
22558	NOT USED	
22559	NOT USED	
22560	NOT USED	
22561	NOT USED	
22562	NOT USED	
22563	NOT USED	
22564	NOT USED	
22565	NOT USED	
22566	NOT USED	
22567	NOT USED	
22568	NOT USED	
22569	NOT USED	
22570	NOT USED	
22571	NOT USED	
22572	NOT USED	
22573	NOT USED	
22574	NOT USED	
22575	NOT USED	
22576	NOT USED	
22577	NOT USED	
22578	NOT USED	
22579	NOT USED	
22580	NOT USED	
22581	NOT USED	
22582	NOT USED	
22583	NOT USED	
22584	Terminal 19-20 – Emergency stop	Standard
22585		
22586		
22587		

Address	Description	
22588		
22589		
22590		

Digital output table (read only 01h)

Address	Terminal	Description	
23000			
23001			
23002			
23003			
23004			
23005			
23006			
23007			
23008			
23009			
23010			
23011			
23012		NOT USED	
23013		NOT USED	
23014		NOT USED	
23015		NOT USED	
23016			
23017			
23018			
23019			
23020		NOT USED	
23021		NOT USED	
23022		NOT USED	
23023		NOT USED	
23024		NOT USED	
23025	20/21	Relay 5 21	Standard
23026	20/22	Relay 22	
23027	20/23	Relay 23	
23028	24/25	Relay 24	
23029	26/27	Relay 26	
23030	45/46	Relay 45 GB on	
23031	47/48	47 MB on	
23032		NOT USED	
23033		NOT USED	
23034		NOT USED	
23035		NOT USED	
23036		NOT USED	
23037		NOT USED	
23038		NOT USED	
23039		NOT USED	
23040		NOT USED	
23041		NOT USED	
23042		NOT USED	

Address	Terminal	Description
23043		NOT USED
23044		NOT USED
23045		NOT USED
23046		NOT USED
23047		NOT USED
23048		NOT USED
23049		
23050		
23051		
23052		
23053		
23054		
23055		

DEIF A/S reserves the right to change any of the above