DEIF

-power in control

CE

DESCRIPTION OF OPTIONS

Gen-set Controller, GC-1F
Option H2, Modbus communication

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- Parameter table

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This description of options covers the following products:

GC-1F	SW version 1.2x.x
GC-1F/2	SW version 2.0x.x or later

Table of contents

1. Warnings and legal information

Legal information and responsibility

DEIF takes no responsibility for installation or operation of the gen-set. If there is any doubt about how to install or operate the gen-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.

Warnings

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

H2 option

The option H2 allows other systems to read all values in GC-1F and to send different commands. H2 is a hardware option.

Terminal description

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

Communication settings

These are the GC-1F RS485 communication settings:

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

Wiring

See the chapter "Communication" in the Installation Instructions and Reference Handbook.

3. Parameters

The option H2 relates to the parameters 7510 and 7520.

For further information, please see the Installation Instructions and Reference Handbook, document number 4189340472.

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	$GB_{operation}$	GB operations counter
33	$MB_{operation}$	MB operations counter
34	U_{SUPPLY}	Supply voltage. Measured in [V/10]
35		Reserved
36	RPM	RPM
37		Multi-input 1, unscaled

Address	Content	Type		
38		Multi-input 2, unscaled		
39		Multi-input 3, unscaled		
40		Reserved		
41		Reserved		
42		Reserved		
43		Reserved		
44		Reserved		
45		Reserved		
46		Reserved		
47		Reserved		
48	Protection alarms	**Bit**	**Menu no.**	**Alarm**
		Bit 0	1000	G -P> 1
		Bit 1		Reserved
		Bit 2		Reserved
		Bit 3	1030	G I> 1
		Bit 4	1040	G I> 2
		Bit 7		Reserved
		Bit 8		Reserved
		Bit 9		Reserved
		Bit 10		Reserved
		Bit 11	1150	G U> 1
		Bit 12	1160	G U> 2
		Bit 13	1170	G U< 1
		Bit 14	1180	G U< 2
		Bit 15		Reserved
49	Protection alarms	Bit 0	1210	G f> 1
		Bit 1	1220	G f> 2
		Bit 2		Reserved
		Bit 3	1240	G f< 1
		Bit 4	1250	G f< 2
		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
50	Protection alarms	Bit 0		Reserved
		Bit 1		Reserved
		Bit 2		Reserved

Address	Content	Type		
		Bit 3		Reserved
		Bit 4		Reserved
		Bit 5		Reserved
		Bit 6		Reserved
		Bit 7	1450	G P> 1
		Bit 8	1460	G P> 2
		Bit 9		Reserved
		Bit 10		Reserved
		Bit 11		Reserved
		Bit 12		Reserved
		Bit 13		Reserved
		Bit 14		Reserved
		Bit 15		Reserved
51	Synchronisation alarms	Bit 0		Reserved
		Bit 1		Reserved
		Bit 2		Reserved
		Bit 3	2150	Phase sequence 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
		Bit 11		Reserved
		Bit 12		Reserved
		Bit 13		Not used
		Bit 14		Not used
		Bit 15		Not used

Address	Content	Type		
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 1
		Bit 1	3410	Dig. multi-input 2
		Bit 2	3420	Dig. multi-input 3
		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	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
		Bit 8		Not used
		Bit 9		Not used
		Bit 10		Not used
		Bit 11		Not used

Address	Content	Type		
		Bit 12		Not used
		Bit 13		Not used
		Bit 14		Not used
		Bit 15		Not used
56	Analogue inputs	Bit 0		Not used
		Bit 1		Not used
		Bit 2		Not used
		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
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 gen.
		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
		Bit 5		Not used
		Bit 6		Not used
		Bit 7		Not used
		Bit 8		Not used

Address	Content	Type		
		Bit 9		Not used
		Bit 10		Not used
		Bit 11	5110	Relay 3
		Bit 12		Not used
		Bit 13		Not used
		Bit 14		Not used
		Bit 15		Not used
59		Bit 0		OFF
		Bit 1		Manual
		Bit 2		Reserved
		Bit 3		Auto
		Bit 4		Test
		Bit 5		Island
		Bit 6		AMF
		Bit 7		Not used
		Bit 8		Not used
		Bit 9		Not used
		Bit 10		Load take over
		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	7650	EIC oil temperature 1
		Bit 9	7660	EIC oil temperature 2
		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
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] 529 [LO]		Reserved
530 531		Reserved
532 533		Reserved

Address	Content	Type
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	$GB_{operation}$	Generator/circuit breaker operations counter
564	$MB_{operation}$	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
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

Address	Content	Type
586		Reserved
587		Reserved
588		Reserved
589		Reserved
592		Reserved
593	Engine communication	Refer to option H5 manual
594	Engine communication	Refer to option H5 manual
595	Engine communication	Refer to option H5 manual
596	Engine communication	Refer to option H5 manual
597	Engine communication	Refer to option H5 manual
598	Engine communication	Refer to option H5 manual
599	Engine communication	Refer to option H5 manual
600	Engine communication	Refer to option H5 manual
601	Engine communication	Refer to option H5 manual
602	Engine communication	Refer to option H5 manual
603	Engine communication	Refer to option H5 manual
604	Engine communication	Refer to option H5 manual
605	Engine communication	Refer to option H5 manual
606	Engine communication	Refer to option H5 manual
607	Engine communication	Refer to option H5 manual
608	Engine communication	Refer to option H5 manual
609	Engine communication	Refer to option H5 manual
610	Engine communication	Refer to option H5 manual
611	Engine communication	Refer to option H5 manual
612	Engine communication	Refer to option H5 manual
613	Engine communication	Refer to option H5 manual
614	Engine communication	Refer to option H5 manual
615	Engine communication	Refer to option H5 manual
616	Engine communication	Refer to option H5 manual
617	Engine communication	Refer to option H5 manual
618	Engine communication	Refer to option H5 manual
642		Reserved
643		Reserved
644		Reserved
645		Reserved
646		Reserved
647		Reserved
648		Reserved
649		Reserved
660	Extern IO	Analogue input 1
661	Extern IO	Analogue input 2
662	Extern IO	Analogue input 3
663	Extern IO	Analogue input 4
664	Extern IO	Analogue input 5
665	Extern IO	Analogue input 6

Address	Content	Type
666	Extern IO	Analogue input 7
667	Extern IO	Analogue input 8
668-999		Not used
900-908	Engine communication	Refer to option H5 manual

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	1130	G I>> 1
		Bit 10	1140	G I>> 2
		Bit 11	1150	G U> 1
		Bit 12	1160	G U> 2
		Bit 13	1170	G U< 1
		Bit 14	1180	G U< 2
		Bit 15		Reserved
1001	Protection alarms	Bit 0	1210	G f> 1
		Bit 1	1220	G f> 2
		Bit 2		Reserved
		Bit 3	1240	G f< 1
		Bit 4	1250	G f< 2
		Bit 5		Reserved
		Bit 6		BB U> 1
		Bit 7		BB U> 2
		Bit 8		Reserved
		Bit 9		BB U< 1
		Bit 10		BB U< 2
		Bit 11		Reserved
		Bit 12		Reserved
		Bit 13		BB f> 1
		Bit 14		BB f> 2
		Bit 15		Reserved
1002	Protection alarms	Bit 0		BB f< 1
		Bit 1		BB f< 2
		Bit 2		Reserved
		Bit 3		Reserved
		Bit 4		Reserved
		Bit 5		Reserved
		Bit 6		Reserved
		Bit 7	1450	G P> 1
		Bit 8	1460	G P> 2
		Bit 9		Reserved
		Bit 10		Reserved
		Bit 11		Reserved
		Bit 12		Reserved
		Bit 13		Reserved
		Bit 14		-Q>
		Bit 15		Q>
1003	Protection alarms	Bit 0		Reserved
		Bit 1		Reserved
		Bit 2		Reserved

Address	Content	Type		
		Bit 3		Reserved
		Bit 4		Not used
		Bit 5		Not used
		Bit 6		Not used
		Bit 7	1620	Mains 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	Synchronisation alarms	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 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

Address	Content	Type		
		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
1008	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		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 1
		Bit 1	3410	Dig. multi-input 2
		Bit 2	3420	Dig. multi-input 3
		Bit 3	3404	Wire failure, dig. multi-input 1
		Bit 4	3404	Wire failure, dig. multi-input 2
		Bit 5	3424	Wire failure, dig. multi-input 3
		Bit 6		Reserved
		Bit 7		Reserved
		Bit 8		Reserved
		Bit 9		Reserved
		Bit 10		Reserved

Address	Content	Type		
		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
		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		Reserved
		Bit 13		Reserved
		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 gen
		Bit 13	4600	V-Belt
		Bit 14	4560	Generator Hz/V failure
		Bit 15		Start failure

Address	Content	Type		
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
		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	5110	Relay 3
		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

Address	Content	Type		
		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
		Bit 13		Not used
		Bit 14		Not used
		Bit 15		Not used
1019		Bit 0		OFF
		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		Load take over
		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		EIC oil temperature 1
		Bit 9		EIC oil temperature 2

Address	Content	Type		
		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			Refer to option H5 manual for bit 16-49
1024	Engine communication	Bit 0		Refer to option H5 manual for bit 0-15
		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		
		Bit 15		
1025		Bit 0		Reserved
1026	KW2000, Scania	Bit 0		Overreving
		Bit 1		Speed sensor 1
		Bit 2		Speed sensor 2
		Bit 3		Water temp. sensor
		Bit 4		Charge air temp. sensor
		Bit 5		Charge air pressure sensor
		Bit 6		Oil temp. sensor
		Bit 7		Oil pressure sensor
		Bit 8		Fault in cor.
		Bit 9		Throttle pedal
		Bit 10		Emergency stop override
		Bit 11		Oil pressure prot.
		Bit 12		Wrong parameter
		Bit 13		Battery voltage
		Bit 14		Oil pressure prot.
		Bit 15		Emergency stop cor.
1027	KW2000, Scania	Bit 0		CAN cir. defect
		Bit 1		CAN mess. DLN1
		Bit 2		Wrong CAN version
		Bit 3		Un. inj. cyl. 1
		Bit 4		Un. inj. cyl. 2
		Bit 5		Un. inj. cyl. 3
		Bit 6		Un. inj. cyl. 4
		Bit 7		Un. inj. cyl. 5
		Bit 8		Un. inj. cyl. 6
		Bit 9		Un. inj. cyl. 7
		Bit 10		Un. inj. cyl. 8
		Bit 11		Extra ana. inp.

Address	Content	Type		
		Bit 12		System shutdown
		Bit 13		Coola. L. prot.
		Bit 14		HW watchdog
		Bit 15		Fault in RAM
1028	KW2000, Scania	Bit 0		Seal
		Bit 1		Coola. shut OFF
		Bit 2		Overheat prot.
		Bit 3		Fault in TPU
		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
1029-1030				Reserved for KW2000
1031- 1035				Not used
1036	Extern IO analogue in	Bit 0		External analogue 1.1
		Bit 1		External analogue 1.2
		Bit 2		Reserved
		Bit 3		External analogue 2.1
		Bit 4		External analogue 2.2
		Bit 5		Reserved
		Bit 6		External analogue 3.1
		Bit 7		External analogue 3.2
		Bit 8		Reserved
		Bit 9		External analogue 4.1
		Bit 10		External analogue 4.2
		Bit 11		Reserved
		Bit 12		External analogue 5.1
		Bit 13		External analogue 5.2
		Bit 15		External analogue 6.1
1037	Extern IO analogue in	Bit 0		External analogue 6.2
		Bit 1		Reserved
		Bit 2		External analogue 7.1
		Bit 3		External analogue 7.2
		Bit 4		Reserved
		Bit 5		External analogue 8.1
		Bit 6		External analogue 8.2
1038	Extern IO digital in	Bit 0		External digital input 1
		Bit 1		External digital input 2
		Bit 2		External digital input 3
		Bit 3		External digital input 4
		Bit 4		External digital input 5
		Bit 5		External digital input 6
		Bit 6		External digital input 7
		Bit 7		External digital input 8
		Bit 8		External digital input 9

Address	Content	Type		
		Bit 9		External digital input 10
		Bit 10		External digital input 11
		Bit 11		External digital input 12
		Bit 12		External digital input 13
		Bit 13		External digital input 14
		Bit 14		External digital input 15
		Bit 15		External digital input 16
1039	Extern IO digital out	Bit 0		External digital output 1
		Bit 1		External digital output 2
		Bit 2		External digital output 3
		Bit 3		External digital output 4
		Bit 4		External digital output 5
		Bit 5		External digital output 6
		Bit 6		External digital output 7
		Bit 7		External digital output 8
		Bit 8		External digital output 9
		Bit 9		External digital output 10
		Bit 10		External digital output 11
		Bit 11		External digital output 12
		Bit 12		External digital output 13
		Bit 13		External digital output 14
		Bit 14		External digital output 15
		Bit 15		External digital output 16
1040 - 1054	Not used			
1055	Alarm LEDs	Bit 0		LED 1 Red colour
		Bit 1		LED 1 Yellow colour
		Bit 2		LED 1 Green colour
		Bit 3		LED 1 Flash
		Bit 4		LED 2 Red colour
		Bit 5		LED 2 Yellow colour
		Bit 6		LED 2 Green colour
		Bit 7		LED 2 Flash
		Bit 8		LED 3 Red colour
		Bit 9		LED 3 Yellow colour
		Bit 10		LED 3 Green colour
		Bit 11		LED 3 Flash
		Bit 12		LED 4 Red colour
		Bit 13		LED 4 Yellow colour
		Bit 14		LED 4 Green colour
		Bit 15		LED 4 Flash

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

Address	Content	Description	
0		Not used	
1		Not used	
2		Not used	
3		Not used	
4		Not used	
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	
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	Load take over (LTO)
		Bit 7	
		Bit 8	
		Bit 9	MB ON
		Bit 10	MB OFF
		Bit 11	OFF mode
		Bit 12	Manual mode
		Bit 13	
		Bit 14	Auto mode
		Bit 15	Test
7		Reserved	
8-13		Not used	

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

Address	Content	Description
0	Not used	
1	Start	These bits are automatically reset.
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	Start and GB ON	
16	GB Off and stop	
17	Island	
18	Automatic mains failure (AMF)	
19	Reserved	
20	Reserved	
21	Reserved	
22	Load take over (LTO)	
23	ATS mode	
24	Neutral pos.	
25	MB ON	
26	MB OFF	
27	OFF	
28	Manual mode	
29	Reserved	
30	Auto mode	
31	Test	
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
42	Not used	
43	Not used	
44	Not used	
45	Not used	
46	Reserved	
47	Reserved	
48	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	OFF	
7	Manual mode	
8	Reserved	
9	Auto mode	
10	Test	
11	Reserved	
12	Reserved	
13	Island	
14	Automatic mains failure (AMF)	
15	ATS mode	
16	Reserved	
17	Reserved	
18	Load take over (LTO)	
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
	Not used	0 – 499
	Measurements	500 – 999
	Status/Alarms	1000 – 1699
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	0-499
Measure values	Parameter table	500-999
Alarms	Parameter table	1000-1499
Not used	Parameter table	1500-1999
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 I> 1		%/10	1/10s
5	1040	G I> 2		%/10	1/10s
6		Reserved			
7		Reserved			
8		Not used			
9		Not used			
10	1130	G I >> 1			
11	1140	G I >> 2			
12	1150	G U> 1		%/10	1/10s
13	1160	G U> 2		%/10	1/10s
14	1170	G U< 1		%/10	1/10s
15	1180	G U< 2		%/10	1/10s
16		Reserved			
17		Reserved			
18	1210	G f> 1		%/10	1/10s
19	1220	G f> 2		%/10	1/10s
20					
21	1240	G f< 1		%/10	1/10s
22	1250	G f< 2		%/10	1/10s
23		Reserved			
24		BB U> 1		%/10	1/10s
25		BB U> 2		%/10	1/10s
26		Reserved			
27		BB U< 1		%/10	1/10s
28		BB U< 2		%/10	1/10s
29		Reserved			
30		Reserved			
31		Reserved			
32		BB F> 1		%/10	1/10s
33		BB F> 2		%/10	1/10s
34		Reserved			
35		BB f< 1		%/10	1/10s
36		BB f< 2		%/10	1/10s
37		Reserved			
38		Reserved			
39		Reserved			

Offset address	Ch. no.	Content	Comment	Value unit	Delay unit
40		Reserved			
41		Reserved			
42		Reserved			
43	1450	G P> 1		%/10	1/10s
44	1460	G P> 2		%/10	1/10s
45		Reserved			
46		Reserved			
47		Reserved			
48		Reserved			
49		Reserved			
50		-Q>		%/10	1/10s
51		Q>		%/10	1/10s
52		Reserved			
53		Reserved			
54		Reserved			
55		Reserved			
56		Reserved			
57		Reserved			
58		Reserved			
59		Reserved			
60		Reserved			
61		Reserved			
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	2180	GB position failure		n	1/10s
104		Reserved			
105		Neutral failure		n	1/10s
106		Reserved			
107	2200	MB open failure		n	1/10s
108	2210	MB close failure		n	1/10s
109	2220	MB position failure		n	1/10s
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	2771	SCANIA EMS2, droop		%/10	n
182	2772	SCANIA EMS2, speed	0: User, 1: 1500RPM, 2: 1800RPM, 3: Low idle		
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			

Offset address	Ch. no.	Content	Comment	Value unit	Delay unit
215		Reserved			
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	4250	0-20/4-20mA no. 2.1		mA	1/10s

Offset address	Ch. no.	Content	Comment	Value unit	Delay unit
257	4260	0-20/4-20mA no. 2.2		mA	1/10s
258	4380	0-20/4-20mA no. 3.1		mA	1/10s
259	4390	0-20/4-20mA no. 3.2		mA	1/10s
260	4120	0-20/4-20mA no.1.1		mA	1/10s
261	4130	0-20/4-20mA no.1.2		mA	1/10s
262		Reserved			
263		Reserved			
264		Reserved			
265		Reserved			
266		Reserved			
267		Reserved			
268		Reserved			
269		Reserved			
270		Reserved			
271	4310	VDO Oil 2.1		Press.	1/10s
272	4460	VDO Water temp. 3.1		Deg.	1/10s
273	4220	VDO Fuel level 1.1		%	
274		Reserved			
275		Reserved			
276		Reserved			
277	4320	VDO Oil 2.2		Press.	1/10s
278	4470	VDO Water temp. 3.2		Deg.	1/10s
279	4230	VDO Fuel level 1.2		%	
280-306		Reserved			
307	4510	Overspeed 1		%/10	1/10s
308	4520	Overspeed 2		%/10	1/10s
309		Reserved			
310	4600	V-Belt		n	1/10s
311		Reserved			
312	4550	Hz/V failure		n	1/10s
313		Reserved			
314		Reserved			
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	5050	Relay 45			1/10s
325	5060	Relay 46			1/10s
326	6950	Parameter group 1			

Offset address	Ch. no.	Content	Comment	Value unit	Delay unit
327	6960	Parameter group 2			
328	6970	Parameter group 3			
329	4610	Charger gen			
330-389		Reserved			
390	4620	Fuel level 1.3		%	1/10s
391-406		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			
435	6070	Gen-set mode	0: Island, 1: AMF, 2: Load take over		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

Offset address	Ch. no.	Content	Comment	Value unit	Delay unit
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	6111	Service timer 1 type			
451	6112	Service timer 2 type			
452	6160	Run status		n	1/10s
453	6171	No. of teeth (flywheel)		n	n
454		Reserved			
455	6173	RPM run detection		RPM	n
456		Reserved			
457	6570	Oil pressure run detection		Press	
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	7090	Island test		n	
465	7040	AMF test		n	
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		Reserved			
471	6360	GB on Temp settings		Deg.	
472		Reserved			
473	6350	D+		n	1/10s
474		Reserved			
475		Reserved			
476		Reserved			
477		Reserved			
478		Reserved			
479		Reserved			
480		Reserved			
481		Reserved			
482		Reserved			
483		Reserved			

Offset address	Ch. no.	Content	Comment	Value unit	Delay unit
484		Reserved			
485	6290	Idle mode			
486	6980	Sleep mode			
487	6222	Hz/V OK voltage			
488	6223	Hz/V OK frequency			
489		Reserved			
490		Reserved			
491		Reserved			
492		Reserved			
493		Reserved			
494		Reserved			
495		Reserved			
496		Reserved			
497		Reserved			
498		Reserved			
499		Reserved			
500		Reserved			
501		Reserved			
502		Reserved			
503		Reserved			
504		Reserved			
505		Reserved			
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522		Reserved			
523		Reserved			
524		Reserved			
525		Reserved			
526		Reserved			
527		Reserved			

Offset address	Ch. no.	Content	Comment	Value unit	Delay unit
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	min/101/10s
539		Reserved			
540		Reserved			
541		Reserved			
542		Reserved			
543		Reserved			
544	7062	Mains OK delay U		n	1/10s
545	7063	Mains low voltage		%	n
546	7064	Mains 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	7081	Mode shift	0: Off, 1: On		n
553	7082	MB close delay		n	1/10s
554		Reserved			
555		Reserved			
556		Reserved			
557		Reserved			
558		Reserved			
559		Reserved			
560		Reserved			
561		Reserved			
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	7520	Ext. comm. error		n	1/10s
566		Reserved			

Offset address	Ch. no.	Content	Comment	Value unit	Delay unit
567		Reserved			
568		Reserved			
569		Reserved			
570		Reserved			
571		Reserved			
572		Reserved			
573		Reserved			
574		Reserved			
575	7562	EIC, J1939			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 oil temperature 1		Deg.	1/10s
586	7660	EIC oil temperature 2		Deg.	1/10s
587	6320	Engine heater on		Deg.	
588	6330	Engine heater off		Deg.	
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			
602		Reserved			
603		Reserved			
604		Reserved			
605		Reserved			
606		Reserved			
607		Reserved			
608		Reserved			
609		Reserved			
610		Reserved			

Offset address	Ch. no.	Content	Comment	Value unit	Delay unit
611		Reserved			
612		Reserved			
613		Reserved			
614		Reserved			
615		Reserved			
616		Reserved			
617		Not used			
618		Not used			
619		Not used			
620		Not used			
621		Not used			
622		Not used			
623		Not used			
624		Not used			
625		Not used			
626		Not used			
627		Not used			
628		Not used			
629		Not used			
630		Not used			
631		Not used			
632		Not used			
633		Not used			
634		Not used			
635		Not used			
636		Not used			
637		Not used			
638		Not used			
639		Not used			
640		Not used			
641		Not used			
642		Not used			
643		Not used			
644		Not used			
645		Not used			
646		Not used			
647		Not used			
648		Not used			
649		Not used			
650		Not used			
651		Not used			
652		Not used			
653		Not used			
654		Not used			

Offset address	Ch. no.	Content	Comment	Value unit	Delay unit
655		Not used			
656		Not used			
657		Not used			
658		Not used			
659		Not used			
660		Not used			
661		Not used			
662		Not used			
663		Not used			
664		Not used			
665		Not used			
666		Not used			
667		Not used			
668		Not used			
669		Not used			
670		Not used			
671		Not used			
672		Not used			
673		Not used			
674		Not used			
675		Not used			
676		Reserved			
677		Setup norms		n	n
678		GB pulse ON		1/10s	1/10s
679		MB pulse ON		1/10s	1/10s
680		Neut pulse ON		1/10s	1/10s
681		Reserved			
682		Auto mode shift		n	n
683		Startup mode		n	n
684		Source prio		n	n
685		Reserved			
686		Not used			
687		Not used			
688		Not used			
689		Not used			
690		Not used			
691		Not used			
692		Not used			
693		Not used			
694		Not used			
695	9116	Customer password		n	n
696	9117	Service password		n	n
697		Reserved			
698		Reserved			

Offset address	Ch. no.	Content	Comment	Value unit	Delay unit
699		Reserved			
700	10000	Cmd timer function 1		n	n
701	10010	Cmd timer day 1		n	n
702	10020	Cmd timer hour 1		n	n
703	10030	Cmd timer minute 1		n	n
704	10040	Cmd timer function 2		n	n
705	10050	Cmd timer day 2		n	n
706	10060	Cmd timer hour 2		n	n
707	10070	Cmd timer minute 2		n	n
708	10080	Cmd timer function 3		n	n
709	10090	Cmd timer day 3		n	n
710	10100	Cmd timer hour 3		n	n
711	10110	Cmd timer minute 3		n	n
712	10120	Cmd timer function 4		n	n
713	10130	Cmd timer day 4		n	n
714	10140	Cmd timer hour 4		n	n
715	10150	Cmd timer minute 4		n	n
716	10160	Cmd timer function 5		n	n
717	10170	Cmd timer day 5		n	n
718	10180	Cmd timer hour 5		n	n
719	10190	Cmd timer minute 5		n	n
720	10200	Cmd timer function 6		n	n
721	10210	Cmd timer day 6		n	n
722	10220	Cmd timer hour 6		n	n
723	10230	Cmd timer minute 6		n	n
724	10240	Cmd timer function 7		n	n
725	10250	Cmd timer day 7		n	n
726	10260	Cmd timer hour 7		n	n
727	10270	Cmd timer minute 7		n	n
728	10280	Cmd timer function 8		n	n
729	10290	Cmd timer day 8		n	n
730	10300	Cmd timer hour 8		n	n
731	10310	Cmd timer minute 8		n	n
732	10320	Pin code GSM		n	n
733	10330	SMS phone no. 1 GSM		n	n
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		Not used			
740		Not used			
741		Not used			
742		Reserved			

Offset address	Ch. no.	Content	Comment	Value unit	Delay unit
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
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 2 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

Offset address	Ch. no.	Content	Comment	Value unit	Delay unit
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 1, config.	0= VDO 1= 4-20mA 2= 0-20mA 3= Binary		n
799	10990	Multi-input 2, config.			n
800	11000	Multi-input 3, config.			n
801		Not used			
802		Not used			
803		Not used			
804		Not used			
805		Not used			
806		Not used			
807		Not used			
808		Not used			
809		Not used			
810		Not used			
811		Not used			
812		Not used			
813		Not used			
814		Not used			
815		Not used			
816		Not used			
817		Not used			
818		Not used			
819		Not used			
820		Not used			
821		Not used			
822		Not used			
823		Not used			
824		Not used			
825		Not used			
826		Not used			
827		Not used			

Offset address	Ch. no.	Content	Comment	Value unit	Delay unit
828		Not used			
829		Not used			
830		Not used			
831		Not used			
832		Not used			
833		Not used			
834		Not used			
835		Not used			
836		Not used			
837		Not used			
838		Not used			
839		Not used			
840		Not used			
841		Not used			
842		Not used			
843		Not used			
844		Not used			
845		Not used			
846		Not used			
847		Not used			
848		Not used			
849		Not used			
850		Not used			
851		Not used			
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856		Not used			
857		Not used			
858		Not used			
859		Not used			
860		Not used			
861		Not used			
862		Not used			
863		Not used			
864		Not used			
865		Not used			
866		Not used			
867		Not used			
868		Not used			
869		Not used			
870	4140	0-20mA 1 units		n	n
871	4270	0-20mA 2 units		n	n

Offset address	Ch. no.	Content	Comment	Value unit	Delay unit
872	4400	0-20mA 3 units		n	n
873	1620	Mains U unbalanced		1/10%	1/10s
874	7110	Mains failure unbalance enable		n	n
875	6940	Alarm LED		n	n
876	4630	Low coolant temperature		Deg	1/10s
877	6213	Temperature controlled cooldown.		Deg	n
878	6560	Cooldown timeout		n	S
879	7111	Mains failure unbalance fail delay		1/10%	1/10s
880	7112	Mains failure unbalance ok delay		1/10%	1/10s
881	7114	Mains failure unbalance setpoint		1/10%	1/10s
882		Reserved			
883	6214	Cooldown in-put/reference		n	n
884	6700	Diode compensation		1/10V	n
885		Reserved			
886		Reserved			
887		Reserved			
888		Reserved			
889		Reserved			
890		Reserved			
891		Reserved			
892		Reserved			
893		Reserved			
894		Reserved			
895		Reserved			
896		Reserved			
897		Reserved			
898		Reserved			
899		Reserved			
900		Reserved			
901		Reserved			
902		Reserved			
903		Reserved			
904		Reserved			
905		Reserved			
906		Reserved			
907		Reserved			
908		Reserved			
909		Reserved			
910		Reserved			
911		Reserved			

Offset address	Ch. no.	Content	Comment	Value unit	Delay unit
912		Reserved			
913		Reserved			
914		Reserved			
915		Reserved			
916		Reserved			
917		Reserved			
918		Reserved			
919		Reserved			
920		Reserved			
921		Reserved			
922		Reserved			
923		Reserved			
924		Reserved			
925		Reserved			
926		Reserved			
927		Reserved			
928		Reserved			
929		Reserved			
930		Reserved			
931		Reserved			
932		Reserved			
933		Reserved			
934		Reserved			
935		Reserved			
936		Reserved			
937		Reserved			
938	7930	External IO comm. error			1/10s
939		Reserved			
940	7973	External IO Comm. ID			
941		Reserved			
942		Reserved			
943		Reserved			
944		Reserved			
945		Reserved			
946		Reserved			
947		Reserved			
948		Reserved			
949	7951	External IO KL320x nbr 1			
950	7952	External IO KL320x nbr 2			
951	7953	External IO KL320x nbr 3			
952	7954	External IO KL320x nbr 4			
953		Reserved			
954		Reserved			
955		Reserved			

Offset address	Ch. no.	Content	Comment	Value unit	Delay unit
956		Reserved			
957	12950	External IO module 0 info			
958	12951	External IO module 1 info			
959	12952	External IO module 2 info			
960	12953	External IO module 3 info			
961	12954	External IO module 4 info			
962	12955	External IO module 5 info			
963	12956	External IO module 6 info			
964	12957	External IO module 7 info			
965	12958	External IO module 8 info			
966	12959	External IO module 9 info			
967	12960	External IO module 10 info			
968	12961	External IO module 11 info			
969	12962	External IO module 12 info			
970	12963	External IO module 13 info			
971	12964	External IO module 14 info			
972	12965	External IO module 15 info			
973	12966	External IO module 16 info			
974	12967	External IO module 17 info			
975	12968	External IO module 18 info			
976	12969	External IO module 19 info			
977	12970	External IO module 20 info			
978	12971	External IO module 21 info			
979	12972	External IO module 22 info			
980	12973	External IO module 23 info			
981	12974	External IO module 24 info			
982	12975	External IO module 25 info			
983	12976	External IO module 26 info			
984	12977	External IO module 27 info			
985	12978	External IO module 28 info			
986	12979	External IO module 29 info			

Offset address	Ch. no.	Content	Comment	Value unit	Delay unit
987	12980	External IO module 30 info			
988	12981	External IO module 31 info			
989	12982	External IO module 32 info			
990	12983	External IO module 33 info			
991		Reserved			
992		Reserved			
993		Reserved			
994		Reserved			
995		Reserved			
996		Reserved			
997		Reserved			
998		Reserved			
999	12000	External IO analogue in 1.1			1/10s
1000	12010	External IO analogue in 1.2			1/10s
1001	12030	External IO analogue in 2.1			1/10s
1002	12040	External IO analogue in 2.2			1/10s
1003	12060	External IO analogue in 3.1			1/10s
1004	12070	External IO analogue in 3.2			1/10s
1005	12090	External IO analogue in 4.1			1/10s
1006	12100	External IO analogue in 4.2			1/10s
1007	12120	External IO analogue in 5.1			1/10s
1008	12130	External IO analogue in 5.2			1/10s
1009	12150	External IO analogue in 6.1			1/10s
1010	12160	External IO analogue in 6.2			1/10s
1011	12180	External IO analogue in 7.1			1/10s
1012	12190	External IO analogue in 7.2			1/10s
1013	12210	External IO analogue in 8.1			1/10s
1014	12220	External IO analogue in 8.2			1/10s
1015		Reserved			
1016		Reserved			
1017		Reserved			

Offset address	Ch. no.	Content	Comment	Value unit	Delay unit
1018		Reserved			
1019		Reserved			
1020		Reserved			
1021		Reserved			
1022		Reserved			
1023		Reserved			
1024		Reserved			
1025		Reserved			
1026		Reserved			
1027		Reserved			
1028		Reserved			
1029		Reserved			
1030		Reserved			
1031		Reserved			
1032		Reserved			
1033		Reserved			
1034		Reserved			
1035		Reserved			
1036		Reserved			
1037		Reserved			
1038		Reserved			
1039		Reserved			
1040		Reserved			
1041		Reserved			
1042		Reserved			
1043		Reserved			
1044		Reserved			
1045		Reserved			
1046		Reserved			
1047	12540	External IO digital input 1			1/10s
1048	12550	External IO digital input 2			1/10s
1049	12560	External IO digital input 3			1/10s
1050	12570	External IO digital input 4			1/10s
1051	12580	External IO digital input 5			1/10s
1052	12590	External IO digital input 6			1/10s
1053	12600	External IO digital input 7			1/10s
1054	12610	External IO digital input 8			1/10s
1055	12620	External IO digital input 9			1/10s
1056	12630	External IO digital input 10			1/10s
1057	12640	External IO digital input 11			1/10s
1058	12650	External IO digital input 12			1/10s
1059	12660	External IO digital input 13			1/10s

Offset address	Ch. no.	Content	Comment	Value unit	Delay unit
1060	12670	External IO digital input 14			1/10s
1061	12680	External IO digital input 15			1/10s
1062	12690	External IO digital input 16			1/10s
1063	12790	External IO digital output 1			1/10s
1064	12800	External IO digital output 2			1/10s
1065	12810	External IO digital output 3			1/10s
1066	12820	External IO digital output 4			1/10s
1067	12830	External IO digital output 5			1/10s
1068	12840	External IO digital output 6			1/10s
1069	12850	External IO digital output 7			1/10s
1070	12860	External IO digital output 8			1/10s
1071	12870	External IO digital output 9			1/10s
1072	12880	External IO digital output 10			1/10s
1073	12890	External IO digital output 11			1/10s
1074	12900	External IO digital output 12			1/10s
1075	12910	External IO digital output 13			1/10s
1076	12920	External IO digital output 14			1/10s
1077	12930	External IO digital output 15			1/10s
1078	12940	External IO digital output 16			1/10s
1079		Reserved			
1080		Reserved			
1081		Reserved			
1082		Reserved			
1083		Reserved			
1084		Reserved			
1085		Reserved			
1086		Reserved			
1087		Reserved			
1088		Reserved			
1089		Reserved			
1090		Reserved			
1091		Reserved			

Offset address	Ch. no.	Content	Comment	Value unit	Delay unit
1092		Reserved			
1093		Reserved			
1094		Reserved			
1095		Reserved			
1096		Reserved			
1097		Reserved			
1098		Reserved			
1099		Reserved			
1100		Reserved			
1101		Reserved			
1102		Reserved			
1103		Reserved			
1104		Reserved			
1105	2773	Cummins Gain			
1106	7561	ADEC Node ID			
1107		Reserved			
1108	4950	< Battery 2		1/10V	1/10s
1109	2774	Volvo rpm		rpm	
1110	7974	External IO reset			
1111		S1 I> 1			1/10s
1112		S1 I> 2			1/10s
1113		S1 I>> 1			1/10s
1114		S1 I>> 2			1/10s
1115		S1 U> 1			1/10s
1116		S1 U> 2			1/10s
1117		S1 U< 1			1/10s
1118		S1 U< 2			1/10s
1119		S1 f> 1			1/10s
1120		S1 f> 2			1/10s
1121		S1 f< 1			1/10s
1122		S1 f< 2			1/10s
1123		CB1 open failure			
1124		CB1 close failure			
1125		CB1 pos. failure			
1126		CB2 open failure			
1127		CB2 close failure			
1128		CB2 pos. Failure			
1129		Reserved			
1130		S1 U pri			
1131		S1 U sec			
1132		S1 I pri			
1134		S1 I sec			
1135		S2 U pri			
1136		S2 U sec			

Offset address	Ch. no.	Content	Comment	Value unit	Delay unit
1137		CB1 counter			
1138		CB2 counter			
1139		ATS test			
1140		Prio2 Hz/V OK delay			
1141		CB1 close delay			
1142		Prio2 U OK			
1143		Prio2 f OK			
1144		Prio1 U OK delay			
1145		Prio1 U< fail			
1146		Prio1 U> fail			
1147		Prio1 f OK delay			
1148		Prio1 f< fail			
1149		Prio1 f> fail			
1150		CB2 close delay			
1151		CB1 pulse ON			
1152		CB2 pulse ON			
1153		S2 U unbl.			
1154		Prio1 U unbl enable			
1155		Prio1 U unbl fail delay			
1156		Prio1 U unbl OK delay			
1157		Prio1 U unbl lvl			
1158		S2 U> 1			
1159		S2 U> 2			
1160		S2 U< 1			
1161		S2 U< 2			
1162		S2 f> 1			
1163		S2 f> 2			
1164		S2 f< 1			
1165		S2 f< 2			
1166		Reserved			
1167		Reserved			
1168		Reserved			
1169		Reserved			
1170		Reserved			
1171		Reserved			
1172		Reserved			
1173		Reserved			
1174		Reserved			
1175		Reserved			
1176		Reserved			
1177		Reserved			
1178		Reserved			
1179		Reserved			
1180		Reserved			

Offset address	Ch. no.	Content	Comment	Value unit	Delay unit
1181		Reserved			
1182		Reserved			
1183		Reserved			
1184		Reserved			
1185		Reserved			
1186		Reserved			
1187		Reserved			
1188		Reserved			
1189		Reserved			
1190		Reserved			
1191		Reserved			
1192		Reserved			
1193	2280	Phase direction			
1194-1562		Reserved			
1563		EIC speed ramp (in/decrease)			

Please refer to the Installation Instructions and 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.

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 02h)

Address	Description	
22501	Reserved	
22502	Reserved	
22503	Reserved	
22504	Reserved	
22505	Reserved	
22506	Reserved	
22507	Reserved	
22508	Reserved	
22509	Reserved	
22510	Reserved	
22511	Reserved	
22512	Reserved	
22513	Reserved	
22514	Reserved	
22515	Not used	
22516	Not used	
22517	Not used	
22518	Not used	
22519	Not used	
22520	Not used	
22521	Not used	
22522	Not used	
22523	Not used	
22524	Not used	
22525	Not used	
22526	Not used	
22527	Not used	
22528	Not used	
22529	Reserved	
22530	Reserved	
22531	Reserved	
22532	Reserved	
22533	Reserved	
22534	Reserved	
22535	Reserved	
22536	Reserved	
22537	Reserved	
22538	Reserved	
22539	Reserved	
22540	Reserved	
22541	Reserved	
22542	Reserved	
22543	Reserved	

Address	Description	
22544	Reserved	Standard
22545	Reserved	
22546	Reserved	
22547	Reserved	
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	Terminal 10	
22586	Terminal 11	
22587	Terminal 12	
22588	Terminal 13	

Address	Description	
22589	Terminal 14	
22590	Terminal 15	
22591	External IO digital input 1	External IO
22592	External IO digital input 2	
22593	External IO digital input 3	
22594	External IO digital input 4	
22595	External IO digital input 5	
22596	External IO digital input 6	
22597	External IO digital input 7	
22598	External IO digital input 8	
22599	External IO digital input 9	
22600	External IO digital input 10	
22601	External IO digital input 11	
22602	External IO digital input 12	
22603	External IO digital input 13	
22604	External IO digital input 14	
22605	External IO digital input 15	
22606	External IO digital input 16	

Digital output table (read only 02h)

Address	Terminal	Description	
23000	20/21	Relay 21	Standard
23001	20/22	Relay 22	
23002	20/23	Relay 23	
23003	24/25	Relay 24	
23004		Reserved	
23005		Reserved	
23006		Reserved	
23007		Reserved	
23008		Reserved	
23009		Reserved	
23010		Reserved	
23011		Reserved	
23012		Not used	
23013		Relay 3	
23014		Not used	
23015		Not used	
23016		Reserved	
23017		Reserved	
23018		Reserved	
23019		Reserved	
23020		Not used	
23021		Not used	
23022		Not used	
23023		Not used	
23024		Not used	
23025		Reserved	Standard
23026	26/27	Relay 26	
23027	47/48	Relay 47	
23028		Reserved	
23029	45/46	Relay 45	
23030		Reserved	
23031		Reserved	
23032	LED 1	Alarm LED 1	
23033	LED 2	Alarm LED 2	
23034	LED 3	Alarm LED 3	
23035	LED 4	Alarm LED 4	
23036		External IO output 1	External IO
23037		External IO output 2	
23038		External IO output 3	
23039		External IO output 4	
23040		External IO output 5	
23041		External IO output 6	
23042		External IO output 7	
23043		External IO output 8	

Address	Terminal	Description	
23044		External IO output 9	
23045		External IO output 10	
23046		External IO output 11	
23047		External IO output 12	
23048		External IO output 13	
23049		External IO output 14	
23050		External IO output 15	
23051		External IO output 16	
23052		Reserved	
23053		Reserved	
23054		Reserved	
23055		Reserved	

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