PARAMETER LIST

Automatic Genset Controller, AGC 100

- Alarm list
- Parameter list

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1. General information

1.1 Warnings, legal information and safety

1.1.1 Warnings and notes

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

Warnings

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

Notes

Notes provide general information, which will be helpful for the reader to bear in mind.

1.1.2 Legal information and disclaimer

DEIF takes no responsibility for installation or operation of the generator set. If there is any doubt about how to install or operate the engine/generator controlled by the Multi-line 2 unit, the company responsible for the installation or the operation of the set must be contacted.

The Multi-line 2 unit is not to be opened by unauthorised personnel. If opened anyway, the warranty will be lost.

Disclaimer
DEIF A/S reserves the right to change any of the contents of this document without prior notice.

1.1.3 Safety issues

Installing and operating the Multi-line 2 unit may imply 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.

1.1.4 Electrostatic discharge awareness

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

1.1.5 Factory settings

The Multi-line 2 unit is delivered from factory with certain factory settings. These are based on average values and are not necessarily the correct settings for matching the engine/generator set in question. Precautions must be taken to check the settings before running the engine/generator set.

1.2 About the parameter list

1.2.1 General purpose of the Parameter List

This document is a complete parameter list including all parameters, which means that some of the option parameters included may not be accessible in the system in question.

The document includes a complete standard alarm list and a complete standard parameter list for setup. Therefore, this document is to be used for reference, when information about specific alarms and parameters is needed.

Please make sure to read this document before starting to work with the Multi-line 2 unit and the genset to be controlled. Failure to do this could result in human injury or damage to the equipment.

1.2.2 Intended users

This Parameter List is mainly intended for the person responsible for the unit parameter setup. In most cases, this would be a panel builder designer. Naturally, other users might also find useful information here.

1.2.3 Contents and overall structure

This document is divided into chapters, and in order to make the structure simple and easy to use, each chapter will begin from the top of a new page.

2. Alarm list

2.1 General information about the alarm list

2.1.1 Alarm list features and options

In the following, these abbreviations are used:
G: Generator
GB: Generator breaker
MB: Mains breaker
N/A: Not available

This chapter includes a complete alarm list, including all possible options. Therefore, this chapter is to be used for reference when specific information about the individual parameters is needed for the unit setup.

The table consists of the following possible adjustments:

Setpoint: The alarm setpoint is adjusted in the setpoint menu. The setting is a percentage of the nominal values.

Delay: The timer setting is the time that must expire from the alarm level is reached until the alarm occurs.

Relay output A: A relay can be activated by output A.

Relay output B: A relay can be activated by output B.

Enable: The alarm can be activated or deactivated. ON means always activated, RUN means that the alarm has run status. This means it is activated when the running signal is present.

Fail class: When the alarm occurs the unit will react depending on the selected fail class.

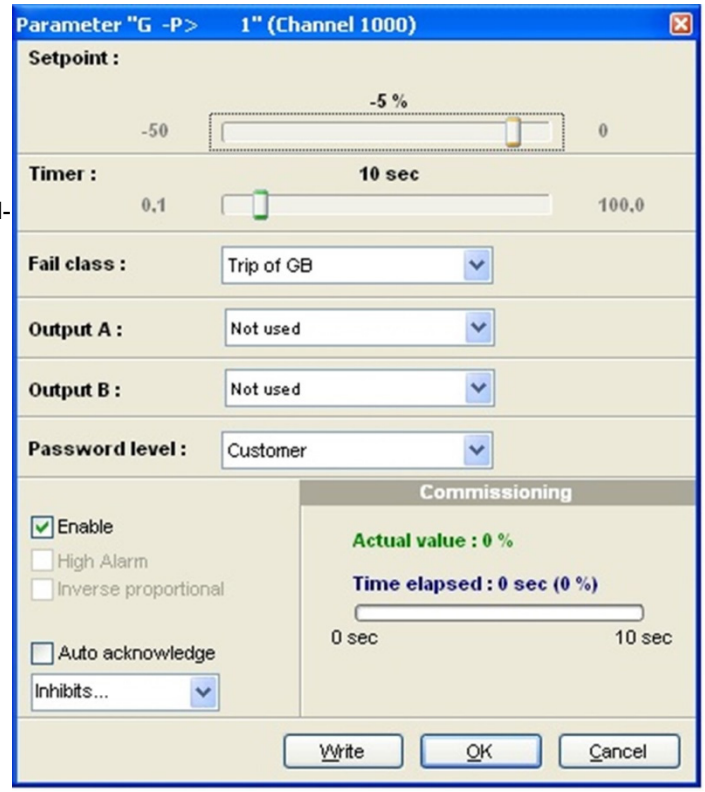
Fail classes are:

Fail class	DG (diesel generator)	Mains unit
F1	Block	Block
F2	Warning	Warning
F3	Trip GB	Trip TB
F4	Trip + Stop	Trip MB
F5	Shutdown	N/A
F6	Trip MB	N/A
F7	Safety stop	N/A
F8	Trip MB/GB	N/A

Small differences due to the character of the parameters may exist between the individual tables.

It is also possible to configure the parameters by using the PC utility software. It will be possible to make the same configurations as described above.

By using the PC utility software, extra functionality is available. For all the protections it is possible to make an automatic acknowledgement of the alarm.



2.2 Protection parameters

2.2.1 Reverse power and overcurrent protection

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
1000 Reverse power 1							
1001	–P> 1	Set-point	-200.0% 0.0%	-5.0%		Designer's Reference Handbook	The alarm and fail class are activated when the reverse power has been continuously above the programmed value during the programmed delay.
1002	–P> 1	Timer	0.1 s 100.0 s	5.0 s			
1003	–P> 1	Relay output A	Not used Option-dependent	Not used			
1004	–P> 1	Relay output B	Not used Option-dependent	Not used			
1005	–P> 1	Enable	OFF ON	ON			
1006	–P> 1	Fail class	F1…F8	Trip GB (F3)			
1010 Reverse power 2							
1011	–P> 2	Set-point	-200.0% 0.0%	-5.0%		Designer's Reference Handbook	The alarm and fail class are activated when the reverse power has been continuously above the programmed value during the programmed delay.
1012	–P> 2	Timer	0.1 s 100.0 s	10.0 s			
1013	–P> 2	Relay output A	Not used Option-dependent	Not used			
1014	–P> 2	Relay output B	Not used Option-dependent	Not used			
1015	–P> 2	Enable	OFF ON	ON			
1016	–P> 2	Fail class	F1…F8	Trip GB (F3)			
1030 Overcurrent 1							
1031	I> 1	Set-point	50.0% 200.0%	115.0%		Designer's Reference Handbook	The alarm and fail class are activated when the current has been continuously above the programmed value during the programmed delay.
1032	I> 1	Timer	0.1 s 3200.0 s	10.0 s			
1033	I> 1	Relay output A	Not used Option-dependent	Not used			

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
1034	I> 1	Relay output B	Not used Option-de-pendent	Not used			
1035	I> 1	Enable	OFF ON	ON			
1036	I> 1	Fail class	F1…F8	Warn-ing(F2)			
1040 Overcurrent 2							
1041	I> 2	Set-point	50.0% 200.0%	120.0%		Designer's Reference Handbook	The alarm and fail class are activated when the current has been continuously above the programmed value during the programmed delay.
1042	I> 2	Timer	0.1 s 3200.0 s	5.0 s			
1043	I> 2	Relay output A	Not used Option-de-pendent	Not used			
1044	I> 2	Relay output B	Not used Option-de-pendent	Not used			
1045	I> 2	Enable	OFF ON	ON			
1046	I> 2	Fail class	F1…F8	Trip GB (F3)			
1050 Overcurrent 3							
1051	I> 3	Set-point	50.0% 200.0%	115.0%		Designer's Reference Handbook	The alarm and fail class are activated when the current has been continuously above the programmed value during the programmed delay.
1052	I> 3	Timer	0.1 s 3200.0 s	10.0 s			
1053	I> 3	Relay output A	Not used Option-de-pendent	Not used			
1054	I> 3	Relay output B	Not used Option-de-pendent	Not used			
1055	I> 3	Enable	OFF ON	ON			
1056	I> 3	Fail class	F1…F8	Trip GB (F3)			
1060 Overcurrent 4							
1061	I> 4	Set-point	50.0% 200.0%	120.0%		Designer's Reference Handbook	The alarm and fail class are activated when the current has been continuously above the programmed value during the programmed delay
1062	I> 4	Timer	0.1 s 3200.0 s	5.0 s			
1063	I> 4	Relay output A	Not used Option-de-pendent	Not used			

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
1064	I> 4	Relay output B	Not used Option-de-pendent	Not used			
1065	I> 4	Enable	OFF ON	ON			
1066	I> 4	Fail class	F1…F8	Trip GB (F3)			
1130 Fast overcurrent 1							
1131	I>> 1	Set-point	150.0% 350.0%	150.0%		Designer's Reference Handbook	The alarm settings relate to the nominal current setting. The alarm and fail class are activa-ted when the current has been continuously above the pro-grammed value during the pro-grammed delay.
1132	I>> 1	Timer	0.0 s 100.0 s	2.0 s			
1133	I>> 1	Replay output A	Not used Option-de-pendent	Not used			
1134	I>> 1	Relay output B	Not used Option-de-pendent	Not used			
1135	I>> 1	Enable	OFF ON	OFF			
1136	I>> 1	Fail class	F1...F8	Trip GB (F3)			
1140 Fast overcurrent 2							
1141	I>> 2	Set-point	150.0% 350.0%	200%		Designer's Reference Handbook	The alarm and fail class are ac- tivated when the current has been continuously above the programmed value during the programmed delay
1142	I>> 2	Delay	0.0 s 100.0 s	0.5 s			
1143	I>> 2	Replay output A	Not used Option-de-pendent	Not used			
1144	I>> 2	Relay output B	Not used Option-de-pendent	Not used			
1145	I>> 2	Enable	OFF ON	OFF			
1146	I>> 2	Fail class	F1...F8	Trip GB (F3)			

2.2.2 Voltage protections

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
1150 G/M overvoltage 1							
1151	G/M U> 1	Set-point	100.0% 130.0%	103.0%		Designer's Reference Handbook	The alarm and fail class are activated when the voltage has been continuously above the programmed value during the programmed delay.
1152	G/M U> 1	Timer	0.1 s 100.0 s	10.0 s			
1153	G/M U> 1	Relay output A	Not used Option-dep.	Not used			
1154	G/M U> 1	Relay output B	Not used Option-dep.	Not used			
1155	G/M U> 1	Enable	OFF ON	OFF			
1156	G/M U> 1	Fail class	F1…F8	Warning (F2)			
1160 G/M overvoltage 2							
1161	G/M U> 2	Set-point	100.0% 130.0%	105.0%		Designer's Reference Handbook	The alarm and fail class are activated when the voltage has been continuously above the programmed value during the programmed delay.
1162	G/M U> 2	Timer	0.1 s 100.0 s	5.0 s			
1163	G/M U> 2	Relay output A	Not used Option-dep.	Not used			
1164	G/M U> 2	Relay output B	Not used Option-dep.	Not used			
1165	G/M U> 2	Enable	OFF ON	OFF			
1166	G/M U> 2	Fail class	F1…F8	Warning (F2)			
1170 G/M undervoltage 1							
1171	G/M U< 1	Set-point	40.0% 100.0%	97%		Designer's Reference Handbook	The alarm and fail class are activated when the voltage has been continuously under the programmed value during the programmed delay.
1172	G/M U< 1	Timer	0.1 s 100.0 s	10.0 s			
1173	G/M U< 1	Relay output A	Not used Option-dep.	Not used			

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
1174	G/M U< 1	Relay output B	Not used Option-dep.	Not used			
1175	G/M U< 1	Enable	OFF ON	OFF			
1176	G/M U< 1	Fail class	F1…F8	Warning (F2)			
1180 G/M undervoltage 2							
1181	G/M U< 2	Set-point	40.0% 100.0%	95.0%		Designer's Reference Handbook	The alarm and fail class are activated when the voltage has been continuously under the programmed value during the programmed delay.
1182	G/M U< 2	Timer	0.1 s 100.0 s	5.0 s			
1183	G/M U< 2	Relay output A	Not used Option-dep.	Not used			
1184	G/M U< 2	Relay output B	Not used Option-dep.	Not used			
1185	G/M U< 2	Enable	OFF ON	OFF			
1186	G/M U< 2	Fail class	F1…F8	Warning (F2)			
1190 G/M undervoltage 3							
1191	G/M U< 3	Set-point	40.0% 100.0%	95.0%		Designer's Reference Handbook	The alarm and fail class are activated when the voltage has been continuously under the programmed value during the programmed delay.
1192	G/M U< 3	Timer	0.1 s 100.0 s	5.0 s			
1193	G/M U< 3	Relay output A	Not used Option-dep.	Not used			
1194	G/M U< 3	Relay output B	Not used Option-dep.	Not used			
1195	G/M U< 3	Enable	OFF ON	OFF			
1196	G/M U< 3	Fail class	F1...F8	Warning (F2)			

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
1200 Calculation method							
1201	G/M voltage trip	Set-point	Ph-Ph Ph-N	Ph-Ph		Designer's Reference Handbook	Selection between phase-phase or phase-neutral voltage detection. When phase-phase tripping is selected, the voltage alarms relate to the nominal voltage. When phase-neutral tripping is selected, the voltage alarms relate to the nominal voltage divided by √3.
1202	BB voltage trip	Set-point	Ph-Ph Ph-N	Ph-Ph		Designer's Reference Handbook	This parameter selects what kind of voltage measurement the protections should be based on. On a generator it will be the busbar voltage measurements, and on a mains unit it will be the measurements after the mains breaker.
1203	Unbalance I	Set-point	Ref. to nominal Ref. to average	Ref. to nominal		Designer's Reference Handbook	This parameter selects how the current is calculated. This is then used to calculate protections.

2.2.3 Frequency protections

Frequency settings relate to the nominal frequency setting.

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
1210 G/M overfrequency 1							
1211	G/M f> 1	Set-point	100.0% 120.0%	103.0%		Designer's Reference Handbook	The alarm and fail class are activated when the frequency has been continuously above the programmed value during the programmed delay. Frequency settings relate to nominal frequency setting.
1212	G/M f> 1	Timer	0.2 s 100.0 s	10.0 s			
1213	G/M f> 1	Relay output A	Not used Option-dependent	Not used			
1214	G/M f> 1	Relay output B	Not used Option-dependent	Not used			
1215	G/M f> 1	Enable	OFF ON	OFF			
1216	G/M f> 1	Fail class	F1…F8	Warning (F2)			
1220 G/M overfrequency 2							
1221	G/M f> 2	Set-point	100.0% 120.0%	105.0%		Designer's Reference Handbook	The alarm and fail class are activated when the frequency has been continuously above the programmed value during the programmed delay.
1222	G/M f> 2	Timer	0.2 s 100.0 s	5.0 s			
1223	G/M f> 2	Relay output A	Not used Option-dependent	Not used			
1224	G/M f> 2	Relay output B	Not used Option-dependent	Not used			
1225	G/M f> 2	Enable	OFF ON	OFF			
1226	G/M f> 2	Fail class	F1…F8	Warning (F2)			
1230 G/M overfrequency 3							
1231	G/M f> 3	Set-point	100.0% 120.0%	105.0%		Designer's Reference Handbook	The alarm and fail class are activated when the frequency has been continuously above the programmed value during the programmed delay.
1232	G/M f> 3	Timer	0.2 s 100.0 s	5.0 s			

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
1233	G/M f> 3	Relay output A	Not used Option-de-pendent	Not used			
1234	G/M f> 3	Relay output B	Not used Option-de-pendent	Not used			
1235	G/M f> 3	Enable	OFF ON	OFF			
1236	G/M f> 3	Fail class	F1…F8	Warning (F2)			
1240 G/M underfrequency 1							
1241	G/M f<1	Set-point	80.0% 100.0%	97.0%		Designer's Reference Handbook	The alarm and fail class are activated when the frequency has been continuously under the programmed value during the programmed delay.
1242	G/M f<1	Timer	0.2 s 100.0 s	10.0 s			
1243	G/M f<1	Relay output A	Not used Option-de-pendent	Not used			
1244	G/M f<1	Relay output B	Not used Option-de-pendent	Not used			
1245	G/M f<1	Enable	OFF ON	OFF			
1246	G/M f<1	Fail class	F1…F8	Warning (F2)			
1250 G/M underfrequency 2							
1251	G/M f<2	Set-point	80.0% 100.0%	95.0%		Designer's Reference Handbook	The alarm and fail class are activated when the frequency has been continuously under the programmed value during the programmed delay.
1252	G/M f<2	Timer	0.2 s 100.0 s	5.0 s			
1253	G/M f<2	Relay output A	Not used Option-de-pendent	Not used			
1254	G/M f<2	Relay output B	Not used Option-de-pendent	Not used			
1255	G/M f<2	Enable	OFF ON	OFF			
1256	G/M f<2	Fail class	F1…F8	Warning (F2)			

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
1260 G/M underfrequency 3							
1261	G/M f<3	Set-point	80.0% 100.0%	95.0%		Designer's Reference Handbook	The alarm and fail class are activated when the frequency has been continuously under the programmed value during the programmed delay.
1262	G/M f<3	Timer	0.2 s 100.0 s	5.0 s			
1263	G/M f<3	Relay output A	Not used Option-dependent	Not used			
1264	G/M f<3	Relay output B	Not used Option-dependent	Not used			
1265	G/M f<3	Enable	OFF ON	OFF			
1266	G/M f<3	Fail class	F1…F8	Warning (F2)			

2.2.4 Busbar voltage protections

Voltage settings relate to the nominal voltage setting.

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
1270 Busbar overvoltage 1							
1271	BB U> 1	Set-point	100.0% 120.0%	103.0%		Designer's Reference Handbook	The alarm and fail class are activated when the voltage has been continuously above the programmed value during the programmed delay.
1272	BB U> 1	Timer	0.0 s 99.99 s	10.0 s			
1273	BB U> 1	Relay output A	Not used Option-de-pendent	Not used			
1274	BB U> 1	Relay output B	Not used Option-de-pendent	Not used			
1275	BB U> 1	Enable	OFF ON	OFF			
1276	BB U> 1	Fail class	F1…F8	Warning (F2)			
1280 Busbar overvoltage 2							
1281	BB U> 2	Set-point	100.0% 120.0%	105.0%		Designer's Reference Handbook	The alarm and fail class are activated when the voltage has been continuously above the programmed value during the programmed delay.
1282	BB U> 2	Timer	0.0 s 99.99 s	5.0 s			
1283	BB U> 2	Relay output A	Not used Option-de-pendent	Not used			
1284	BB U> 2	Relay output B	Not used Option-de-pendent	Not used			
1285	BB U> 2	Enable	OFF ON	OFF			
1286	BB U> 2	Fail class	F1…F8	Warning (F2)			
1290 Busbar overvoltage 3							
1291	BB U> 3	Set-point	100.0% 120.0%	105.0%		Designer's Reference Handbook	The alarm and fail class are activated when the voltage has been continuously above the programmed value during the programmed delay.
1292	BB U> 3	Timer	0.0 s 99.99 s	5.0 s			

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
1293	BB U> 3	Relay output A	Not used Option-de-pendent	Not used			
1294	BB U> 3	Relay output B	Not used Option-de-pendent	Not used			
1295	BB U> 3	Enable	OFF ON	OFF			
1296	BB U> 3	Fail class	F1…F8	Warning (F2)			
1300 Busbar undervoltage 1							
1301	BB U< 1	Set-point	40.0% 100.0%	97.0%		Designer's Reference Handbook	The alarm and fail class are activated when the voltage has been continuously under the programmed value during the programmed delay.
1302	BB U< 1	Timer	0.00 s 99.99 s	10.00 s			
1303	BB U< 1	Relay output A	Not used Option-de-pendent	Not used			
1304	BB U< 1	Relay output B	Not used Option-de-pendent	Not used			
1305	BB U< 1	Enable	OFF ON	OFF			
1306	BB U< 1	Fail class	F1…F8	Warning (F2)			
1310 Busbar undervoltage 2							
1311	BB U< 2	Set-point	40.0% 100.0%	95.0%		Designer's Reference Handbook	The alarm and fail class are activated when the voltage has been continuously under the programmed value during the programmed delay.
1312	BB U< 2	Timer	0.00 s 99.99 s	5.0 s			
1313	BB U< 2	Relay output A	Not used Option-de-pendent	Not used			
1314	BB U< 2	Relay output B	Not used Option-de-pendent	Not used			
1315	BB U< 2	Enable	OFF ON	OFF			
1316	BB U< 2	Fail class	F1…F8	Warning (F2)			

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
1320 Busbar undervoltage 3							
1321	BB U< 3	Set-point	40.0% 100.0%	97.0%		Designer's Reference Handbook	The alarm and fail class are activated when the voltage has been continuously under the programmed value during the programmed delay.
1322	BB U< 3	Timer	0.00 s 99.99 s	10.0 s			
1323	BB U< 3	Relay output A	Not used Option-de-pendent	Not used			
1324	BB U< 3	Relay output B	Not used Option-de-pendent	Not used			
1325	BB U< 3	Enable	OFF ON	OFF			
1326	BB U< 3	Fail class	F1…F8	Warning (F2)			
1330 Busbar undervoltage 4							
1331	BB U< 4	Set-point	40.0% 100.0%	95.0%		Designer's Reference Handbook	The alarm and fail class are activated when the voltage has been continuously under the programmed value during the programmed delay.
1332	BB U< 4	Timer	0.00 s 99.99 s	5.0 s			
1333	BB U< 4	Relay output A	Not used Option-dep.	Not used			
1334	BB U< 4	Relay output B	Not used Option-dep.	Not used			
1335	BB U< 4	Enable	OFF ON	OFF			
1336	BB U< 4	Fail class	F1...F8	Warning (F2)			
1340 Busbar voltage trip							
1341	BB volt-age trip	Set-point	Ph-Ph Ph-N	Ph-Ph		Designer's Reference Handbook	Selection between phase-phase or phase-neutral volt-age detection.

2.2.5 Busbar frequency protections

Frequency settings relate to the nominal frequency setting.

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
1350 Busbar overfrequency 1							
1351	BB f> 1	Set-point	100.0% 120.0%	103.0%		Designer's Reference Handbook	The alarm and fail class are activated when the frequency has been continuously above the programmed value during the programmed delay.
1352	BB f> 1	Timer	0.0 s 99.99 s	10.0 s			
1353	BB f> 1	Relay output A	Not used Option-dep.	Not used			
1354	BB f> 1	Relay output B	Not used Option-dep.	Not used			
1355	BB f> 1	Enable	OFF ON	OFF			
1356	BB f> 1	Fail class	F1…F8	Warning (F2)			
1360 Busbar overfrequency 2							
1361	BB f> 2	Set-point	100.0% 120.0%	105.0%		Designer's Reference Handbook	The alarm and fail class are activated when the frequency has been continuously above the programmed value during the programmed delay.
1362	BB f> 2	Timer	0.00 s 99.99 s	5.0 s			
1363	BB f> 2	Relay output A	Not used Option-dep.	Not used			
1364	BB f> 2	Relay output B	Not used Option-dep.	Not used			
1365	BB f> 2	Enable	OFF ON	OFF			
1366	BB f> 2	Fail class	F1…F8	Warning (F2)			
1370 Busbar overfrequency 3							
1371	BB f> 3	Set-point	100.0% 120.0%	105.0%		Designer's Reference Handbook	The alarm and fail class are activated when the frequency has been continuously above the programmed value during the programmed delay.
1372	BB f> 3	Timer	0.00 s 99.99 s	5.0 s			

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
1373	BB f> 3	Relay output A	Not used Option-dep.	Not used			
1374	BB f> 3	Relay output B	Not used Option-dep.	Not used			
1375	BB f> 3	Enable	OFF ON	OFF			
1376	BB f> 3	Fail class	F1…F8	Warning (F2)			
1380 Busbar underfrequency 1							
1381	BB f< 1	Set-point	80.0% 100.0%	97.0%		Designer's Reference Handbook	The alarm and fail class are activated when the frequency has been continuously under the programmed value during the programmed delay.
1382	BB f< 1	Timer	0.00 s 99.99 s	10.0 s			
1383	BB f< 1	Relay output A	Not used Option-dep.	Not used			
1384	BB f< 1	Relay output B	Not used Option-dep.	Not used			
1385	BB f< 1	Enable	OFF ON	OFF			
1386	BB f< 1	Fail class	F1…F8	Warning (F2)			
1390 Busbar underfrequency 2							
1391	BB f< 2	Set-point	80.0% 100.0%	95.0%		Designer's Reference Handbook	The alarm and fail class are activated when the frequency has been continuously under the programmed value during the programmed delay.
1392	BB f< 2	Timer	0.00 s 99.99 s	5.0 s			
1393	BB f< 2	Relay output A	Not used Option-dep.	Not used			
1394	BB f< 2	Relay output B	Not used Option-dep.	Not used			
1395	BB f< 2	Enable	OFF ON	OFF			
1396	BB f< 2	Fail class	F1…F8	Warning (F2)			

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
1400 Busbar underfrequency 3							
1401	BB f< 3	Set-point	80.0% 100.0%	97.0%		Designer's Reference Handbook	The alarm and fail class are activated when the frequency has been continuously under the programmed value during the programmed delay.
1402	BB f< 3	Timer	0.00 s 99.99 s	10.0 s			
1403	BB f< 3	Relay output A	Not used Option-dep.	Not used			
1404	BB f< 3	Relay output B	Not used Option-dep.	Not used			
1405	BB f< 3	Enable	OFF ON	OFF			
1406	BB f< 3	Fail class	F1…F8	Warning (F2)			
1410 Busbar underfrequency 4							
1411	BB f< 4	Set-point	80.0% 100.0%	95.0%		Designer's Reference Handbook	The alarm and fail class are activated when the frequency has been continuously under the programmed value during the programmed delay.
1412	BB f< 4	Timer	0.00 s 99.99 s	5.0 s			
1413	BB f< 4	Relay output A	Not used Option-dep.	Not used			
1414	BB f< 4	Relay output B	Not used Option-dep.	Not used			
1415	BB f< 4	Enable	OFF ON	OFF			
1416	BB f< 4	Fail class	F1...F8	Warning (F2)			

2.2.6 Overload protections

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
1450 Overload 1							
1451	P> 1	Set-point	-200.0% 200.0%	100.0%		Designer's Reference Handbook	Settings relate to nominal power. The alarm and fail class are activated when the power has been continuously above the programmed value during the programmed delay.
1452	P> 1	Timer	0.1 s 3200.0 s	10.0 s			
1453	P> 1	Relay output A	Not used Option-dep.	Not used			
1454	P> 1	Relay output B	Not used Option-dep.	Not used			
1455	P> 1	Enable	OFF ON	OFF			
1456	P> 1	Fail class	F1…F8	Warning (F2)			
1460 Overload 2							
1461	P> 2	Set-point	-200.0% 200.0%	110.0%		Designer's Reference Handbook	The alarm and fail class are activated when the power has been continuously above the programmed value during the programmed delay.
1462	P> 2	Timer	0.1 s 3200.0 s	5.0 s			
1463	P> 2	Relay output A	Not used Option-dep.	Not used			
1464	P> 2	Relay output B	Not used Option-dep.	Not used			
1465	P> 2	Enable	OFF ON	OFF			
1466	P> 2	Fail class	F1…F8	Trip GB (F3)			
1470 Overload 3							
1471	P> 3	Set-point	-200.0% 200.0%	100.0%		Designer's Reference Handbook	The alarm and fail class are activated when the power has been continuously above the programmed value during the programmed delay.
1472	P> 3	Timer	0.1 s 3200.0 s	10.0 s			
1473	P> 3	Relay output A	Not used Option-dep.	Not used			

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
1474	P> 3	Relay output B	Not used Option-dep.	Not used			
1475	P> 3	Enable	OFF ON	OFF			
1476	P> 3	Fail class	F1…F8	Trilp GB (F3)			
1480 Overload 4							
1481	P> 4	Set-point	-200.0% 200.0%	110.0%		Designer's Reference Handbook	The alarm and fail class are activated when the power has been continuously above the programmed value during the programmed delay.
1482	P> 4	Timer	0.1 s 3200.0 s	5.0 s			
1483	P> 4	Relay output A	Not used Option-dep.	Not used			
1484	P> 4	Relay output B	Not used Option-dep.	Not used			
1485	P> 4	Enable	OFF ON	OFF			
1486	P> 4	Fail class	F1…F8	Trip GB (F3)			
1490 Overload 5							
1491	P> 5	Set-point	-200.0% 200.0%	100.0%		Designer's Reference Handbook	The alarm and fail class are activated when the power has been continuously above the programmed value during the programmed delay.
1492	P> 5	Timer	0.1 s 3200.0 s	10.0 s			
1493	P> 5	Relay output A	Not used Option-dep.	Not used			
1494	P> 5	Relay output B	Not used Option-dep.	Not used			
1495	P> 5	Enable	OFF ON	OFF			
1496	P> 5	Fail class	F1...F8	Trip GB (F3)			

2.2.7 Current unbalance protection

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
1500 Unbalanced current							
1501	Unbalance curr.	Set-point	0.0% 100.0%	30.0%		Designer's Reference Handbook	Settings relate to nominal generator current. The alarm and fail class are activated when the difference between the max. reading and the min. reading of the 3 measured currents has been continuously above the programmed value during the programmed delay.
1502	Unbalance curr.	Timer	0.1 s 100.0 s	10.0 s			
1503	Unbalance curr.	Relay output A	Not used Option-dep.	Not used			
1504	Unbalance curr.	Relay output B	Not used Option-dep.	Not used			
1505	Unbalance curr.	Enable	OFF ON	OFF			
1506	Unbalance curr.	Fail class	F1…F8	Trip GB (F3)			
1710 Unbalanced current 2							
1711	Unbalance curr. 2	Set-point	0.0% 100.0%	30.0%		Designer's Reference Handbook	Settings relate to nominal generator current. The alarm and fail class are activated when the difference between the max. reading and the min. reading of the 3 measured currents has been continuously above the programmed value during the programmed delay.
1712	Unbalance curr. 2	Timer	0.1 s 100.0 s	10.0 s			
1713	Unbalance curr. 2	Relay output A	Not used Option-dep.	Not used			
1714	Unbalance curr. 2	Relay output B	Not used Option-dep.	Not used			
1715	Unbalance curr. 2	Enable	OFF ON	OFF			
1716	Unbalance curr. 2	Fail class	F1...F8	Trip GB (F3)			

2.2.8 Voltage unbalance protection

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
1510 Unbalanced voltage							
1511	Unbalance volt.	Set-point	0.0% 50.0%	10.0%		Designer's Reference Handbook	Settings relate to nominal voltage. The alarm and fail class are activated when the difference between the max. reading and the min. reading of the 3 measured generator voltages has been continuously above the programmed value during the programmed delay.
1512	Unbalance volt.	Timer	0.1 s 100.0 s	10.0 s			
1513	Unbalance volt.	Relay output A	Not used Option-dep.	Not used			
1514	Unbalance volt.	Relay output B	Not used Option-dep.	Not used			
1515	Unbalance volt.	Enable	OFF ON	OFF			
1516	Unbalance volt.	Fail class	F1…F8	Trip GB (F3)			

2.2.9 Reactive power import (loss of excitation) protection

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
1520 Reactive power import (loss of excitation)							
1521	–Q>	Setpoint	0.0% 150.0%	50.0%		Designer's Reference Handbook	Settings relate to nominal power. The alarm and fail class are activated when imported VAr has been continuously above the programmed value during the programmed delay.
1522	–Q>	Timer	0.1 s 100.0 s	10.0 s			
1523	–Q>	Relay output A	Not used Option-dep.	Not used			
1524	–Q>	Relay output B	Not used Option-dep.	Not used			
1525	–Q>	Enable	OFF ON	OFF			
1526	–Q>	Fail class	F1…F8	Warning (F2)			

2.2.10 Reactive power export (overexcitation) protection

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
1530 Reactive power export (overexcitation)							
1531	Q>	Setpoint	0.0% 100.0%	60.0%		Designer's Reference Handbook	Settings relate to nominal power. The alarm and fail class are activated when exported VAr has been continuously above the programmed value during the programmed delay.
1532	Q>	Timer	0.1 s 100.0 s	10.0 s			
1533	Q>	Relay output A	Not used Option-dep.	Not used			
1534	Q>	Relay output B	Not used Option-dep.	Not used			
1535	Q>	Enable	OFF ON	OFF			
1536	Q>	Fail class	F1…F8	Warning (F2)			

2.2.11 Busbar unbalance voltage

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
1620 BB unbalance U							
1621	BB unbalance U	Set-point	0.0% 50.0%	6.0%		Designer's Reference Handbook	Settings relate to average actual voltage. The alarm and fail class are activated when the difference between the max. reading and the min. reading of the 3 measured busbar voltages has been continuously above the programmed value during the programmed delay.
1622	BB unbalance U	Timer	0.1 s 100.0 s	10.0 s			
1623	BB unbalance U	Relay output A	Not used Option-dep.	Not used			
1624	BB unbalance U	Relay output B	Not used Option-dep.	Not used			
1625	BB unbalance U	Enable	OFF ON	OFF			
1626	BB unbalance U	Fail class	F1…F8	Warning (F2)			

2.2.12 Undervoltage and reactive power low

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
1960 U and Q < 1							
1961	U and Q < 1	Set-point	40.0% 100.0%	85.0%		Option A1	The setting relates to the generator nominal voltage. The condition for trip is that the actual voltage drops below the setting value and the reactive power is ≤ 0 kVAr.
1962	U and Q < 1	Timer	0.1 s 3200.0 s	0.5 s			
1963	U and Q < 1	Relay output A	Option-dep.	Not used			
1964	U and Q < 1	Relay output B	Option-dep.	Not used			
1965	U and Q < 1	Enable	OFF ON	OFF			
1966	U and Q < 1	Fail class	F1…F8	Warning (F2)			
1970 U and Q < 2							
1971	U and Q < 2	Set-point	40.0% 100.0%	85.0%		Option A1	The setting relates to the generator nominal voltage. The condition for trip is that the actual voltage drops below the setting value and the reactive power is ≤ 0 kVAr.
1972	U and Q < 2	Timer	0.1 s 3200.0 s	0.5 s			
1973	U and Q < 2	Relay output A	Option-dep.	Not used			
1974	U and Q < 2	Relay output B	Option-dep.	Not used			
1975	U and Q < 2	Enable	OFF ON	OFF			
1976	U and Q < 2	Fail class	F1…F8	Warning (F2)			
1980 GB/MB external trip							
1981	GB ext. trip	Enable	OFF ON	ON		Designer's Reference Handbook	The generator breaker or the mains breaker has been tripped by an external device.
1982	GB ext. trip	Fail class	F1...F8	Warning (F2)			
1983	MB ext. trip	Enable	OFF ON	ON			
1984	MB ext. trip	Fail class	F1...F8	Warning (F2)			

Minimum current and minimum Phi angle

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
1990 U and Q< 1							
1991	I Min. 1	Setpoint	0% 20%	0%		Option A1	Settings relate to U and Q< parameters 1960 and 1970. Condition for "U and Q<" trip is that the current exceeds the I Min. setpoint. Min. Phi angle expands the tripping window.
1992	Angle 1	Setpoint	0° 6°	0°			
1990 U and Q< 2							
1993	I Min. 2	Setpoint	0% 20%	0%		Option A1	Settings relate to U and Q< parameters 1960 and 1970. Condition for "U and Q<" trip is that the current exceeds the I Min. setpoint. Min. Phi angle expands the tripping window.
1994	Angle 2	Setpoint	0° 6°	0°			

2.3 Breaker control parameters

2.3.1 Breaker alarms

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
2110 Synchronisation blackout							
2111	Sync blackout	dfMax	0.0 Hz 5.0 Hz	3.0 Hz		Designer's Reference Handbook	Settings are accepted limits for closing of the breaker, referring to nominal frequency and voltage.
2112	Sync blackout	dUMax	2% 20%	5%			
2150 Phase sequence error							
2151	Phase seq error	Relay output A	Not used Option-dep.	Not used		Designer's Reference Handbook	Prior to closing a breaker, the unit checks that the phase sequence is correct, depending on the chosen phase direction in parameter 2154: "Phase rotation". If it is incorrect (reversed), an alarm will be issued and the breaker in question will not be closed.
2152	Phase seq error	Relay output B	Not used Option-dep.	Not used			
2153	Phase seq error	Fail class	F1…F8	Block (F1)			
2154	Phase rotation	Set-point	L1L2L3 L1L3L2	L1L2L3			
2160 GB/TB open failure							
2161	GB/TB open fail	Timer	1.0 s 10.0 s	2.0 s		Designer's Reference Handbook	The breaker open failure will occur if the unit has transmitted a breaker open signal and the breaker feedback has not changed position from ON to OFF within the time delay.
2162	GB/TB open fail	Relay output A	Not used Option-dep.	Not used			
2163	GB/TB open fail	Relay output B	Not used Option-dep.	Not used			
2164	GB/TB open fail	Enable	OFF ON	ON			
2165	GB/TB open fail	Fail class	F1…F8	Warning (F2)			
2170 GB/TB breaker close failure							
2171	GB/TB close fail	Timer	1.0 s 5.0 s	2.0 s		Designer's Reference Handbook	The breaker close failure will occur if the unit has transmitted a breaker close signal and the breaker feedback has not changed position from OFF to ON within the time delay.
2172	GB/TB close fail	Relay output A	Not used Option-dep.	Not used			
2173	GB/TB close fail	Relay output B	Not used Option-dep.	Not used			
2174	GB/TB close fail	Enable	OFF ON	ON			
2175	GB/TB close fail	Fail class	F1…F8	Warning (F2)			

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
2180 GB/TB breaker position failure							
2181	GB/TB pos fail	Timer	1.0 s 5.0 s	1.0 s		Designer's Reference Handbook	This alarm will occur if the breaker feedbacks for ON and OFF are both missing or active for more than the time delay.
2182	GB/TB pos fail	Relay output A	Not used Option-dep.	Not used			
2183	GB/TB pos fail	Relay output B	Not used Option-dep.	Not used			
2184	GB/TB pos fail	Enable	OFF ON	ON			
2185	GB/TB pos fail	Fail class	F1…F8	Warning (F2)			
2200 MB open failure							
2201	MB open fail	Timer	1.0 s 10.0 s	2.0 s		Designer's Reference Handbook	The breaker open failure will occur if the unit has transmitted a breaker open signal and the breaker feedback has not changed position from ON to OFF within the time delay.
2202	MB open fail	Relay output A	Not used Option-dep.	Not used			
2203	MB open fail	Relay output B	Not used Option-dep.	Not used			
2204	MB open fail	Enable	ON	ON			
2205	MB open fail	Fail class	F1…F8	Warning (F2)			
2210 MB close failure							
2211	MB close fail	Timer	1.0 s 5.0 s	2.0 s		Designer's Reference Handbook	The breaker close failure will occur if the unit has transmitted a breaker close signal and the breaker feedback has not changed position from OFF to ON within the time delay.
2212	MB close fail	Relay output A	Not used Option-dep.	Not used			
2213	MB close fail	Relay output B	Not used Option-dep.	Not used			
2214	MB close fail	Enable	ON	ON			
2215	MB close fail	Fail class	F1…F8	Warning (F2)			

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
2220 MB position failure							
2221	MB pos fail	Timer	1.0 s 5.0 s	1.0 s		Designer's Reference Handbook	This alarm will occur if the breaker feedbacks for ON and OFF are both missing or active for more than the time delay.
2222	MB pos fail	Relay output A	Not used Option-dep.	Not used			
2223	MB pos fail	Relay output B	Not used Option-dep.	Not used			
2224	MB pos fail	Enable	ON	ON			
2225	MB pos fail	Fail class	F1…F8	Warning (F2)			
2420 BTB33 position fail							
2421	BTB33 pos fail	Timer	1.0 s 5.0 s	2.0 s			This alarm will occur if the breaker feedbacks for ON and OFF are both missing or active for more than the time delay.
2422	BTB33 pos fail	Relay output A	Not used Option-dep.	Not used			
2423	BTB33 pos fail	Relay output B	Not used Option-dep.	Not used			
2424	BTB33 pos fail	Enable	ON OFF	ON			
2425	BTB33 pos fail	Fail class	F1…F8	Warning (F2)			
2430 BTB34 position fail							
2431	BTB34 pos fail	Timer	1.0 s 5.0 s	2.0 s			This alarm will occur if the breaker feedbacks for ON and OFF are both missing or active for more than the time delay.
2432	BTB34 pos fail	Relay output A	Not used Option-dep.	Not used			
2433	BTB34 pos fail	Relay output B	Not used Option-dep.	Not used			
2434	BTB34 pos fail	Enable	ON OFF	ON			
2435	BTB34 pos fail	Fail class	F1…F8	Warning (F2)			

2440 BTB35 position fail							
2441	BTB35 pos fail	Timer	1.0 s 5.0 s	2.0 s			This alarm will occur if the breaker feedbacks for ON and OFF are both missing or active for more than the time delay.
2442	BTB35 pos fail	Relay output A	Not used Option-dep.	Not used			
2443	BTB35 pos fail	Relay output B	Not used Option-dep.	Not used			
2444	BTB35 pos fail	Enable	ON OFF	ON			
2445	BTB35 pos fail	Fail class	F1…F8	Warning (F2)			
2450 BTB36 position fail							
2451	BTB36 pos fail	Timer	1.0 s 5.0 s	2.0 s			This alarm will occur if the breaker feedbacks for ON and OFF are both missing or active for more than the time delay.
2452	BTB36 pos fail	Relay output A	Not used Option-dep.	Not used			
2453	BTB36 pos fail	Relay output B	Not used Option-dep.	Not used			
2454	BTB36 pos fail	Enable	ON OFF	ON			
2455	BTB36 pos fail	Fail class	F1…F8	Warning (F2)			
2460 BTB37 position fail							
2461	BTB37 pos fail	Timer	1.0 s 5.0 s	2.0 s			This alarm will occur if the breaker feedbacks for ON and OFF are both missing or active for more than the time delay.
2462	BTB37 pos fail	Relay output A	Not used Option-dep.	Not used			
2463	BTB37 pos fail	Relay output B	Not used Option-dep.	Not used			
2464	BTB37 pos fail	Enable	ON OFF	ON			
2465	BTB37 pos fail	Fail class	F1…F8	Warning (F2)			

2470 BTB38 position fail							
2471	BTB38 pos fail	Timer	1.0 s 5.0 s	2.0			This alarm will occur if the breaker feedbacks for ON and OFF are both missing or active for more than the time delay.
2472	BTB38 pos fail	Relay output A	Not used Option-dep.	Not used			
2473	BTB38 pos fail	Relay output B	Not used Option-dep.	Not used			
2474	BTB38 pos fail	Enable	ON OFF	ON			
2475	BTB38 pos fail	Fail class	F1…F8	Warning (F2)			
2480 BTB39 position fail							
2481	BTB39 pos fail	Timer	1.0 s 5.0 s	2.0			This alarm will occur if the breaker feedbacks for ON and OFF are both missing or active for more than the time delay.
2482	BTB39 pos fail	Relay output A	Not used Option-dep.	Not used			
2483	BTB39 pos fail	Relay output B	Not used Option-dep.	Not used			
2484	BTB39 pos fail	Enable	ON OFF	ON			
2485	BTB39 pos fail	Fail class	F1…F8	Warning (F2)			
2490 BTB40 position fail							
2491	BTB40 pos fail	Timer	1.0 s 5.0 s	2.0			This alarm will occur if the breaker feedbacks for ON and OFF are both missing or active for more than the time delay.
2492	BTB40 pos fail	Relay output A	Not used Option-dep.	Not used			
2493	BTB40 pos fail	Relay output B	Not used Option-dep.	Not used			
2494	BTB40 pos fail	Enable	ON OFF	ON			
2495	BTB40 pos fail	Fail class	F1…F8	Warning (F2)			

2.4 Input/output parameters, binary input setup

2.4.1 Digital input 10-15 setup

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
3000 Digital input 10							
3001	Dig. input 10	Timer	0.0 s 100.0 s	10.0 s		Designer's Reference Handbook	The input is configurable and can have different functions in different units.
3002	Dig. input 10	Relay output A	Not used Option-dep.	Not used			
3003	Dig. input 10	Relay output B	Not used Option-dep.	Not used			
3004	Dig. input 10	Enable	OFF ON	OFF			
3005	Dig. input 10	Fail class	F1…F8	Warning (F2)			
3006	Dig. input 10	High Alarm	OFF ON	ON			

The same settings apply to inputs 11-15, menus 3010 to 3050.

2.4.2 Digital input 6-8 setup

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
3400 Digital input 6							
3401	Wire fail 6	Enable	OFF	OFF		Designer's Reference Handbook	The input is configurable and can have different functions in different units. (Only available if multi-input 6 is configured to "binary" in menu 10980).
3402	Dig. input 6	Timer	0.0 s 100.0 s	10.0 s			
3403	Dig. input 6	Relay output A	Not used Option-dep.	Not used			
3404	Dig. input 6	Relay output B	Not used Option-dep.	Not used			
3405	Dig. input 6	Enable	OFF ON	OFF			
3406	Dig. input 6	Fail class	F1…F8	Warning (F2)			
3410 Digital input 7							
3411	Wire fail 7	Enable	OFF	OFF		Designer's Reference Handbook	The input is configurable and can have different functions in different units. (Only available if multi-input 7 is configured to "binary" in menu 10990).
3412	Dig. input 7	Timer	0.0 s 100.0 s	10.0 s			
3413	Dig. input 7	Relay output A	Not used Option-dep.	Not used			
3414	Dig. input 7	Relay output B	Not used Option-dep.	Not used			
3415	Dig. input 7	Enable	OFF ON	OFF			
3416	Dig. input 7	Fail class	F1…F8	Warning (F2)			

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
3420 Digital input 8							
3421	Wire fail 8	Enable	OFF	OFF		Designer's Reference Handbook	The input is configurable and can have different functions in different units. (Only available if multi-input 8 is configured to "binary" in menu 11000).
3422	Dig. input 8	Timer	0.0 s 100.0 s	10.0 s			
3423	Dig. input 8	Relay output A	Not used Option-dep.	Not used			
3424	Dig. input 8	Relay output B	Not used Option-dep.	Not used			
3425	Dig. input 8	Enable	OFF ON	OFF			
3426	Dig. input 8	Fail class	F1…F8	Warning (F2)			

2.4.3 Emergency stop

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
3490 Emergency stop							
3491	Emer. stop	Timer	0.0 s 60.0 s	0.0 s		Designer's Reference Handbook	Emergency stop input is intended for a normally closed contact.
3492	Emer. stop	Relay output A	Not used Option-dependent	Not used			
3493	Emer. stop	Relay output B	Not used Option-dependent	Not used			
3494	Emer. stop	Enable	OFF ON	ON			
3495	Emer. stop	Fail class	F1…F8	Shutdown (F5)			

2.4.4 M-Logic alarm 1-5 setup

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
3570 Mlogic alarm 1							
3570	Mlogic alarm 1	Timer	0.0 s 100.0 s	10.0 s			The input is configurable.
3571	Mlogic alarm 1	Relay output A	Not used Option-dep.	Not used			
3572	Mlogic alarm 1	Relay output B	Not used Option-dep.	Not used			
3573	Mlogic alarm 1	Enable	OFF ON	OFF			
3574	Mlogic alarm 1	Fail class	F1…F8	Warning (F2)			
3575	Mlogic alarm 1	High Alarm	OFF ON	ON			

The same settings apply to alarm inputs 2-5, menus 3580 to 3610.

2.5 Multi-functional analogue input setup

2.5.1 Multi-input no. 6

The available menus for multi-input no. 6 depend on the input type configured in the PC utility software (menu 10980).

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
4120 4-20 mA 6.1							
4121	4-20 mA 6.1	Setpoint	4 mA 20 mA	10 mA		Designer's Reference Handbook	The multi-input 6 has been configured as 4-20 mA.
4122	4-20 mA 6.1	Timer	0.0 s 999.0 s	120.0 s			
4123	4-20 mA 6.1	Relay output A	Not used Option-dep.	Not used			
4124	4-20 mA 6.1	Relay output B	Not used Option-dep.	Not used			
4125	4-20 mA 6.1	Enable	OFF ON	OFF			
4126	4-20 mA 6.1	Fail class	F1…F8	Warning (F2)			
4130 4-20 mA 6.2							
4131	4-20 mA 6.2	Setpoint	4 mA 20 mA	10 mA		Designer's Reference Handbook	The multi-input 6 has been configured as 4-20 mA.
4132	4-20 mA 6.2	Timer	0.0 s 999.0 s	120.0 s			
4133	4-20 mA 6.2	Relay output A	Not used Option-dep.	Not used			
4134	4-20 mA 6.2	Relay output B	Not used Option-dep.	Not used			
4135	4-20 mA 6.2	Enable	OFF ON	OFF			
4136	4-20 mA 6.2	Fail class	F1…F8	Warning (F2)			
4160 Pt1000 6.1							
4161	Pt 6.1	Setpoint	-49 482	80		Designer's Reference Handbook	The multi-input 6 has been configured as Pt1000. Pt1000 setpoint can be in deg. C or F, dependent on the unit selection (menu 10970).
4162	Pt 6.1	Timer	0.0 s 999.0 s	5.0 s			

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
4163	Pt 6.1	Relay output A	Not used Option-dep.	Not used			
4164	Pt 6.1	Relay output B	Not used Option-dep.	Not used			
4165	Pt 6.1	Enable	OFF ON	OFF			
4166	Pt 6.1	Fail class	F1…F8	Warning (F2)			
4167	Pt 6.1	Offset	0.0 Ohm 5.0 Ohm	0.0 Ohm			
4170 Pt1000 6.2							
4171	Pt 6.2	Setpoint	-49 482	80		Designer's Reference Handbook	The multi-input 6 has been configured as Pt1000. Pt1000 setpoint can be in deg. C or F, dependent on the unit selection (menu 10970).
4172	Pt 6.2	Timer	0.0 s 999.0 s	10.0 s			
4173	Pt 6.2	Relay output A	Not used Option-dep.	Not used			
4174	Pt 6.2	Relay output B	Not used Option-dep.	Not used			
4175	Pt 6.2	Enable	OFF ON	OFF			
4176	Pt 6.2	Fail class	F1...F8	Warning (F2)			
4180 RMI oil 6.1							
4181	RMI oil 6.1	Setpoint	0.0 400.0	4.0		Designer's Reference Handbook	The multi-input 6 has been configured as RMI oil pressure. Oil pressure setpoint can be in Bar or PSI, dependent on the unit selection (menu 10970).
4182	RMI oil 6.1	Timer	0.0 s 999.0 s	5.0 s			
4183	RMI oil 6.1	Relay output A	Not used Option-dep.	Not used			
4184	RMI oil 6.1	Relay output B	Not used Option-dep.	Not used			
4185	RMI oil 6.1	Enable	OFF ON	OFF			
4186	RMI oil 6.1	Fail class	F1…F8	Warning (F2)			

4190 RMI oil 6.2							
4191	RMI oil 6.2	Setpoint	0.0 400.0	5.0		Designer's Reference Handbook	The multi-input 6 has been configured as RMI oil pressure. Oil pressure setpoint can be in Bar or PSI, dependent on the unit selection (menu 10970).
4192	RMI oil 6.2	Timer	0.0 s 999.0 s	5.0 s			
4193	RMI oil 6.2	Relay output A	Not used Option-dep.	Not used			
4194	RMI oil 6.2	Relay output B	Not used Option-dep.	Not used			
4195	RMI oil 6.2	Enable	OFF ON	OFF			
4196	RMI oil 6.2	Fail class	F1…F8	Warning (F2)			
4200 RMI water 6.1							
4201	RMI water 6.1	Setpoint	-49 482	100		Designer's Reference Handbook	The multi-input 6 has been configured as RMI water temperature. Water temperature setpoint can be in deg. C or F, dependent on the unit selection (menu 10970).
4202	RMI water 6.1	Timer	0.0 s 999.0 s	5.0 s			
4203	RMI water 6.1	Relay output A	Not used Option-dep.	Not used			
4204	RMI water 6.1	Relay output B	Not used Option-dep.	Not used			
4205	RMI water 6.1	Enable	OFF ON	OFF			
4206	RMI water 6.1	Fail class	F1…F8	Warning (F2)			
4210 RMI water 6.2							
4211	RMI water 6.2	Setpoint	-49 482	110		Designer's Reference Handbook	The multi-input 6 has been configured as RMI water temperature. Water temperature setpoint can be in deg. C or F, dependent on the unit selection (menu 10970).
4212	RMI water 6.2	Timer	0.0 s 999.0 s	5.0 s			
4213	RMI water 6.2	Relay output A	Not used Option-dep.	Not used			
4214	RMI water 6.2	Relay output B	Not used Option-dep.	Not used			

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
4215	RMI water 6.2	Enable	OFF ON	OFF			
4216	RMI water 6.2	Fail class	F1…F8	Warning (F2)			
4220 RMI fuel level 6.1							
4221	RMI fuel 6.1	Setpoint	0% 100%	10%		Designer's Reference Handbook	The multi-input 6 has been configured as RMI fuel level.
4222	RMI fuel 6.1	Timer	0.0 s 999.0 s	10.0 s			
4223	RMI fuel 6.1	Relay output A	Not used Option-dep.	Not used			
4224	RMI fuel 6.1	Relay output B	Not used Option-dep.	Not used			
4225	RMI fuel 6.1	Enable	OFF ON	OFF			
4226	RMI fuel 6.1	Fail class	F1…F8	Warning (F2)			
4230 RMI fuel level 6.2							
4231	RMI fuel 6.2	Setpoint	0% 100%	5%		Designer's Reference Handbook	The multi-input 6 has been configured as RMI fuel level.
4232	RMI fuel 6.2	Timer	0.0 s 999.0 s	10.0 s			
4233	RMI fuel 6.2	Relay output A	Not used Option-dep.	Not used			
4234	RMI fuel 6.2	Relay output B	Not used Option-dep.	Not used			
4235	RMI fuel 6.2	Enable	OFF ON	OFF			
4236	RMI fuel 6.2	Fail class	F1…F8	Warning (F2)			

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
4240 Wire fail 6							
4241	W. fail 6	Relay output A	Not used Option-dep.	Not used		Designer's Reference Handbook	The wire break fault detection is activated.
4242	W. fail 6	Relay output B	Not used Option-dep.	Not used			
4243	W. fail 6	Enable	OFF ON	OFF			
4244	W. fail 6	Fail class	F1…F8	Warning (F2)			

2.5.2 Multi-input no. 7

The available menus for multi-input no. 7 depend on the input type configured in the PC utility software (menu 10990).

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
4250 4-20 mA 7.1							
4251	4-20 mA 7.1	Setpoint	4 mA 20 mA	10 mA		Designer's Reference Handbook	The multi-input 7 has been configured as 4-20 mA.
4252	4-20 mA 7.1	Timer	0.0 s 999.0 s	120.0 s			
4253	4-20 mA 7.1	Relay output A	Not used Option-dep.	Not used			
4254	4-20 mA 7.1	Relay output B	Not used Option-dep.	Not used			
4255	4-20 mA 7.1	Enable	OFF ON	OFF			
4256	4-20 mA 7.1	Fail clas	F1…F8	Warning (F2)			
4260 4-20 mA 7.2							
4261	4-20 mA 7.2	Setpoint	4 mA 20 mA	10 mA		Designer's Reference Handbook	The multi-input 7 has been configured as 4-20 mA.
4262	4-20 mA 7.2	Timer	0.0 s 999.0 s	120.0 s			
4263	4-20 mA 7.2	Relay output A	Not used Option-dep.	Not used			
4264	4-20 mA 7.2	Relay output B	Not used Option-dep.	Not used			
4265	4-20 mA 7.2	Enable	OFF ON	OFF			
4266	4-20 mA 7.2	Fail clas	F1…F8	Warning (F2)			
4290 Pt1000 7.1							
4291	Pt 7.1	Setpoint	-49 482	80		Designer's Reference Handbook	The multi-input 7 has been configured as Pt1000. Pt1000 setpoint can be in deg. C or F, dependent on the unit selection (menu 10970).
4292	Pt 7.1	Timer	0.0 s 999.0 s	5.0 s			

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
4293	Pt 7.1	Relay output A	Not used Option-dep.	Not used			
4294	Pt 7.1	Relay output B	Not used Option-dep.	Not used			
4295	Pt 7.1	Enable	OFF ON	OFF			
4296	Pt 7.1	Fail class	F1…F8	Warning (F2)			
4297	Pt 7.1	Offset	0.0 Ohm 5.0 Ohm	0.0 Ohm			
4300 Pt1000 7.2							
4301	Pt 7.2	Setpoint	-49 482	80		Designer's Reference Handbook	The multi-input 7 has been configured as Pt1000. Pt1000 setpoint can be in deg. C or F, dependent on the unit selection (menu 10970).
4302	Pt 7.2	Timer	0.0 s 999.0 s	10.0 s			
4303	Pt 7.2	Relay output A	Not used Option-dep.	Not used			
4304	Pt 7.2	Relay output B	Not used Option-dep.	Not used			
4305	Pt 7.2	Enable	OFF ON	OFF			
4306	Pt 7.2	Fail clas	F1…F8	Warning (F2)			
4310 RMI oil 7.1							
4311	RMI oil 7.1	Setpoint	0.0 400.0	4.0		Designer's Reference Handbook	The multi-input 7 has been configured as RMI oil pressure. Oil pressure setpoint can be in Bar or PSI, dependent on the unit selection (menu 10970).
4312	RMI oil 7.1	Timer	0.0 s 999.0 s	5.0 s			
4313	RMI oil 7.1	Relay output A	Not used Option-dep.	Not used			
4314	RMI oil 7.1	Relay output B	Not used Option-dep.	Not used			
4315	RMI oil 7.1	Enable	OFF ON	OFF			
4316	RMI oil 7.1	Fail class	F1…F8	Warning (F2)			

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
4320 RMI oil 7.2							
4321	RMI oil 7.2	Setpoint	0.0 400.0	4.0		Designer's Reference Handbook	The multi-input 7 has been configured as RMI oil pressure. Oil pressure setpoint can be in Bar or PSI, dependent on the unit selection (menu 10970).
4322	RMI oil 7.2	Timer	0.0 s 999.0 s	5.0 s			
4323	RMI oil 7.2	Relay output A	Not used Option-dep.	Not used			
4324	RMI oil 7.2	Relay output B	Not used Option-dep.	Not used			
4325	RMI oil 7.2	Enable	OFF ON	OFF			
4326	RMI oil 7.2	Fail class	F1…F8	Warning (F2)			
4330 RMI water 7.1							
4331	RMI water 7.1	Setpoint	-49 482	100		Designer's Reference Handbook	The multi-input 7 has been configured as RMI water temperature. Water temperature setpoint can be in deg. C or F, dependent on the unit selection (menu 10970).
4332	RMI water 7.1	Timer	0.0 s 999.0 s	5.0 s			
4333	RMI water 7.1	Relay output A	Not used Option-dep.	Not used			
4334	RMI water 7.1	Relay output B	Not used Option-dep.	Not used			
4335	RMI water 7.1	Enable	OFF ON	OFF			
4336	RMI water 7.1	Fail class	F1…F8	Warning (F2)			
4340 RMI water 7.2							
4341	RMI water 7.2	Setpoint	-49 482	110		Designer's Reference Handbook	The multi-input 7 has been configured as RMI water temperature. Water temperature setpoint can be in deg. C or F, dependent on the unit selection (menu 10970).
4342	RMI water 7.2	Timer	0.0 s 999.0 s	5.0 s			
4343	RMI water 7.2	Relay output A	Not used Option-dep.	Not used			
4344	RMI water 7.2	Relay output B	Not used Option-dep.	Not used			
4345	RMI water 7.2	Enable	OFF ON	OFF			
4346	RMI water 7.2	Fail class	F1…F8	Warning (F2)			

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
4350 RMI fuel level 7.1							
4351	RMI fuel 7.1	Setpoint	0% 100%	10%		Designer's Reference Handbook	The multi-input 7 has been configured as RMI fuel level.
4352	RMI fuel 7.1	Timer	0.0 s 999.0 s	10.0 s			
4353	RMI fuel 7.1	Relay output A	Not used Option-dep.	Not used			
4354	RMI fuel 7.1	Relay output B	Not used Option-dep.	Not used			
4355	RMI fuel 7.1	Enable	OFF ON	OFF			
4356	RMI fuel 7.1	Fail class	F1…F8	Warning (F2)			
4360 RMI fuel level 7.2							
4361	RMI fuel 7.2	Setpoint	0% 100%	5%		Designer's Reference Handbook	The multi-input 7 has been configured as RMI fuel level.
4362	RMI fuel 7.2	Timer	0.0 s 999.0 s	10.0 s			
4363	RMI fuel 7.2	Relay output A	Not used Option-dep.	Not used			
4364	RMI fuel 7.2	Relay output B	Not used Option-dep.	Not used			
4365	RMI fuel 7.2	Enable	OFF ON	OFF			
4366	RMI fuel 7.2	Fail class	F1…F8	Warning (F2)			
4370 Wire fail 7							
4371	W. fail 7	Relay output A	Not used Option-dep.	Not used		Designer's Reference Handbook	The wire break fault detection is activated.
4372	W. fail 7	Relay output B	Not used Option-dep.	Not used			
4373	W. fail 7	Enable	OFF ON	OFF			
4374	W. fail 7	Fail class	F1…F8	Warning (F2)			

2.5.3 Multi-input no. 8

The available menus for multi-input no. 8 depend on the input type configured in the PC utility software (menu 11000).

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
4380 4-20 mA 8.1							
4381	4-20 mA 8.1	Setpoint	4 mA 20 mA	10 mA		Designer's Reference Handbook	The multi-input 8 has been configured as 4-20 mA.
4382	4-20 mA 8.1	Timer	0.0 s 999.0 s	120.0 s			
4383	4-20 mA 8.1	Relay output A	Not used Option-dep.	Not used			
4384	4-20 mA 8.1	Relay output B	Not used Option-dep.	Not used			
4385	4-20 mA 8.1	Enable	OFF ON	OFF			
4386	4-20 mA 8.1	Fail class	F1…F8	Warning (F2)			
4390 4-20 mA 8.2							
4391	4-20 mA 8.2	Setpoint	4 mA 20 mA	10 mA		Designer's Reference Handbook	The multi-input 8 has been configured as 4-20 mA.
4392	4-20 mA 8.2	Timer	0.0 s 999.0 s	120.0 s			
4393	4-20 mA 8.2	Relay output A	Not used Option-dep.	Not used			
4394	4-20 mA 8.2	Relay output B	Not used Option-dep.	Not used			
4395	4-20 mA 8.2	Enable	OFF ON	OFF			
4396	4-20 mA 8.2	Fail class	F1…F8	Warning (F2)			
4440 RMI oil 8.1							
4441	RMI oil 8.1	Setpoint	0.0 400.0	4.0		Designer's Reference Handbook	The multi-input 8 has been configured as RMI oil pressure. Oil pressure setpoint can be in Bar or PSI, dependent on the unit selection (menu 10970).
4442	RMI oil 8.1	Timer	0.0 s 999.0 s	5.0 s			
4443	RMI oil 8.1	Relay output A	Not used Option-dep.	Not used			

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
4444	RMI oil 8.1	Relay output B	Not used Option-dep.	Not used			
4445	RMI oil 8.1	Enable	OFF ON	OFF			
4446	RMI oil 8.1	Fail class	F1…F8	Warning (F2)			
4450 RMI oil 8.2							
4451	RMI oil 8.2	Setpoint	0.0 400.0	5.0		Designer's Reference Handbook	The multi-input 8 has been configured as RMI oil pressure. Oil pressure setpoint can be in Bar or PSI, dependent on the unit selection (menu 10970).
4452	RMI oil 8.2	Timer	0.0 s 999.0 s	5.0 s			
4453	RMI oil 8.2	Relay output A	Not used Option-dep.	Not used			
4454	RMI oil 8.2	Relay output B	Not used Option-dep.	Not used			
4455	RMI oil 8.2	Enable	OFF ON	OFF			
4456	RMI oil 8.2	Fail class	F1…F8	Warning (F2)			
4460 RMI water 8.1							
4461	RMI water 8.1	Setpoint	-49 482	100		Designer's Reference Handbook	The multi-input 8 has been configured as RMI water temperature. Water temperature setpoint can be in deg. C or F, dependent on the unit selection (menu 10970).
4462	RMI water 8.1	Timer	0.0 s 999.0 s	5.0 s			
4463	RMI water 8.1	Relay output A	Not used Option-dep.	Not used			
4464	RMI water 8.1	Relay output B	Not used Option-dep.	Not used			
4465	RMI water 8.1	Enable	OFF ON	OFF			
4466	RMI water 8.1	Fail class	F1…F8	Warning (F2)			

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
4470 RMI water 8.2							
4471	RMI water 8.2	Setpoint	-49 482	110		Designer's Reference Handbook	The multi-input 8 has been configured as RMI water temperature. Water temperature setpoint can be in deg. C or F, dependent on the unit selection (menu 10970).
4472	RMI water 8.2	Timer	0.0 s 999.0 s	5.0 s			
4473	RMI water 8.2	Relay output A	Not used Option-dep.	Not used			
4474	RMI water 8.2	Relay output B	Not used Option-dep.	Not used			
4475	RMI water 8.2	Enable	OFF ON	OFF			
4476	RMI water 8.2	Fail class	F1…F8	Warning (F2)			
4480 RMI fuel level 8.1							
4481	RMI fuel 8.1	Setpoint	0% 100%	10%		Designer's Reference Handbook	The multi-input 8 has been configured as RMI fuel level.
4482	RMI fuel 8.1	Timer	0.0 s 999.0 s	10.0 s			
4483	RMI fuel 8.1	Relay output A	Not used Option-dep.	Not used			
4484	RMI fuel 8.1	Relay output B	Not used Option-dep.	Not used			
4485	RMI fuel 8.1	Enable	OFF ON	OFF			
4486	RMI fuel 8.1	Fail class	F1…F8	Warning (F2)			
4490 RMI fuel level 8.2							
4491	RMI fuel 8.2	Setpoint	0% 100%	5%		Designer's Reference Handbook	The multi-input 8 has been configured as RMI fuel level.
4492	RMI fuel 8.2	Timer	0.0 s 999.0 s	10.0 s			
4493	RMI fuel 8.2	Relay output A	Not used Option-dep.	Not used			
4494	RMI fuel 8.2	Relay output B	Not used Option-dep.	Not used			

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
4495	RMI fuel 8.2	Enable	OFF ON	OFF			
4496	RMI fuel 8.2	Fail class	F1…F8	Warning (F2)			
4500 Wire fail 8							
4501	W. fail 8	Relay output A	Not used Option-dep.	Not used		Designer's Reference Handbook	The wire break fault detection is activated.
4502	W. fail 8	Relay output B	Not used Option-dep.	Not used			
4503	W. fail 8	Enable	OFF ON	OFF			
4504	W. fail 8	Fail class	F1…F8	Warning (F2)			

2.5.4 Speed and running feedback setup

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
4510 Overspeed 1							
4511	Over-speed 1	Set-point	100.0% 150.0%	110.0%		Designer's Reference Handbook	The setpoint in percentage relates to nominal RPM.
4512	Over-speed 1	Timer	0.0 s 100.0 s	5.0 s			
4513	Over-speed 1	Relay output A	Not used Option-dep.	Not used			
4514	Over-speed 1	Relay output B	Not used Option-dep.	Not used			
4515	Over-speed 1	Enable	OFF ON	OFF			
4516	Over-speed 1	Fail class	F1…F8	Warning (F2)			
4520 Overspeed 2							
4521	Over-speed 2	Set-point	100.0% 150.0%	120.0%		Designer's Reference Handbook	The setpoint in percentage relates to nominal RPM.
4522	Over-speed 2	Timer	0.0 s 100.0 s	1.0 s			
4523	Over-speed 2	Relay output A	Not used Option-dep.	Not used			
4524	Over-speed 2	Relay output B	Not used Option-dep.	Not used			
4525	Over-speed 2	Enable	OFF ON	OFF			
4526	Over-speed 2	Fail class	F1…F8	Wg (F5)			
4530 Crank failure							
4531	Crank failure	Set-point	1 RPM 400 RPM	50 RPM		Designer's Reference Handbook	If MPU is chosen as the primary running feedback, this alarm will be raised if the specified RPM is not reached before the delay has expired.
4532	Crank failure	Timer	0.0 s 20.0 s	2.0 s			
4533	Crank failure	Relay output A	Not used Option-dep.	Not used			

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
4534	Crank failure	Relay output B	Not used Option-dep.	Not used			
4535	Crank failure	Enable	OFF ON	OFF			
4536	Crank failure	Fail class	F1…F8	Warning (F2)			
4540 Running feedback failure							
4541	Run feedb. fail	Timer	0.0 s 20.0 s	2.0 s		Designer's Reference Handbook	If running is detected on the frequency (secondary), but the primary running feedback, e.g. digital input, has not detected running, this alarm will be raised after the adjusted delay time.
4542	Run feedb. fail	Relay output A	Not used Option-dep.	Not used			
4543	Run feedb. fail	Relay output B	Not used Option-dep.	Not used			
4544	Run feedb. fail	Enable	ON	ON			
4545	Run feedb. fail	Fail class	F1...F8	Warning (F2)			
4550 Magnetic pick-up wirebreak							
4551	MPU wire-break	Relay output A	Not used Option-dep.	Not used		Designer's Reference Handbook	The wirebreak monitoring is only active when the engine is at standstill.
4552	MPU wire-break	Relay output B	Not used Option-dep.	Not used			
4553	MPU wire-break	Enable	OFF ON	OFF			
4554	MPU wire-break	Fail class	F1...F8	Warning (F2)			
4560 Hz/voltage failure							
4561	Hz/V failure	Timer	1.0 s 99.0 s	30.0 s		Designer's Reference Handbook	If the frequency and voltage are not within the limits after the running feedback is received, this alarm will be raised when the delay time
4562	Hz/V failure	Relay output A	Not used Option-dep.	Not used			

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
4563	Hz/V failure	Relay output B	Not used Option-dep.	Not used			has expired. Limits are placed in menu 2110 (Sync. blackout).
4564	Hz/V failure	Enable	OFF ON	ON			
4565	Hz/V failure	Fail class	F1...F8	Shutdown (F5)			
4570 Start failure							
4571	Start failure	Relay output A	Not used Option-dep.	Not used		Designer's Reference Handbook	The start failure alarm occurs if the genset has not started after the number of start attempts.
4572	Start failure	Relay output B	Not used Option-dep.	Not used			
4573	Start failure	Fail class	F1…F8	Block (F1)			
4580 Stop failure							
4581	Stop failure	Timer	10.0 s 120.0 s	30.0 s		Designer's Reference Handbook	A stop failure alarm will appear if the primary running feedback or the generator voltage and frequency are still present after the delay time has expired.
4582	Stop failure	Relay output A	Not used Option-dep.	Not used			
4583	Stop failure	Relay output B	Not used Option-dep.	Not used			
4584	Stop failure	Enable	OFF ON	ON			
4585	Stop failure	Fail class	F1…F8	Shutdown (F5)			
4590 Underspeed 1							
4591	Underspeed	Setpoint	50.0% 100.0%	90.0%		Designer's Reference Handbook	The setpoint in percentage relates to nominal RPM.
4592	Underspeed	Timer	0.0 s 100.0 s	5.0 s			
4593	Underspeed	Relay output A	Not used Option-dep.	Not used			
4594	Underspeed	Relay output B	Not used Option-dep.	Not used			
4595	Underspeed	Enable	OFF ON	OFF			
4596	Underspeed	Fail class	F1…F8	Warning (F2)			

2.5.5 Differential measurement

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
4601 Delta ana 1/2/3 Inp							
4601	Delta ana1 InpA	Setpoint	Multi-input 6 EIC	Multi-input 6		Designer's Reference Handbook	Delta analogue Inp 1/2/3 setting. Choose between multi-inputs, external analogue inputs and EIC values
4602	Delta ana1 InpB	Setpoint	Multi-input 6 EIC	Multi-input 6			
4603	Delta ana2 InpA	Setpoint	Multi-input 6 EIC	Multi-input 6			
4604	Delta ana2 InpB	Setpoint	Multi-input 6 EIC	Multi-input 6			
4605	Delta ana3 InpA	Setpoint	Multi-input 6 EIC	Multi-input 6			
4606	Delta ana3 InpB	Setpoint	Multi-input 6 EIC	Multi-input 6			
4610 Delta ana1 1							
4611	Delta ana1 1	Setpoint	-9999 9999	4		Designer's Reference Handbook	Delta analogue alarm setting 1.1
612	Delta ana1 1	Timer	0.0 s 999.0 s	5.0 s			
4613	Delta ana1 1	Relay output A	Not used Option-dep.	Not used			
4614	Delta ana1 1	Relay output B	Not used Option-dep.	Not used			
4615	Delta ana1 1	Enable	OFF ON	OFF			
4616	Delta ana1 1	Fail class	F1…F8	Warning (F2)			
4620 Delta ana1 2							
4621	Delta ana1 2	Setpoint	-9999 9999	10		Designer's Reference Handbook	Delta analogue alarm setting 1.2
4622	Delta ana1 2	Timer	0.0 s 999.0 s	5.0 s			

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
4623	Delta ana1 2	Relay output A	Not used Option-dep.	Not used			
4624	Delta ana1 2	Relay output B	Not used Option-dep.	Not used			
4625	Delta ana1 2	Enable	OFF ON	OFF			
4626	Delta ana1 2	Fail class	F1…F8	Warning (F2)			
4630 Delta ana2 1							
4631	Delta ana2 1	Setpoint	-9999 9999	10		Designer's Reference Handbook	Delta analogue alarm setting 2.1
4632	Delta ana2 1	Timer	0.0 s 999.0 s	5.0 s			
4633	Delta ana2 1	Relay output A	Not used Option-dep.	Not used			
4634	Delta ana2 1	Relay output B	Not used Option-dep.	Not used			
4635	Delta ana2 1	Enable	OFF ON	OFF			
4636	Delta ana2 1	Fail class	F1…F8	Warning (F2)			
4640 Delta ana2 2							
4641	Delta ana2 2	Setpoint	-9999 999	10		Designer's Reference Handbook	Delta analogue alarm setting 2.2
4642	Delta ana2 2	Timer	0.0 s 999.0 s	5.0 s			
4643	Delta ana2 2	Relay output A	Not used Option-dep.	Not used			
4644	Delta ana2 2	Relay output B	Not used Option-dep.	Not used			
4645	Delta ana2 2	Enable	OFF ON	OFF			
4646	Delta ana2 2	Fail class	F1...F8	Warning (F2)			

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
4650 Delta ana3 1							
4651	Delta ana3 1	Setpoint	-9999 9999	10		Designer's Reference Handbook	Delta analogue alarm setting 3.1
4652	Delta ana3 1	Timer	0.0 s 999.0 s	5.0 s			
4653	Delta ana3 1	Relay output A	Not used Option-dep.	Not used			
4654	Delta ana3 1	Relay output B	Not used Option-dep.	Not used			
4655	Delta ana3 1	Enable	OFF ON	OFF			
4656	Delta ana3 1	Fail class	F1...F8	Warning (F2)			
4660 Delta ana3 2							
4661	Delta ana3 2	Setpoint	-9999 9999	10		Designer's Reference Handbook	Delta analogue alarm setting 3.2
4662	Delta ana3 2	Timer	0.0 s 999.0 s	5.0 s			
4663	Delta ana3 2	Relay output A	Not used Option-dep.	Not used			
4664	Delta ana3 2	Relay output B	Not used Option-dep.	Not used			
4665	Delta ana3 2	Enable	OFF ON	OFF			
4666	Delta ana3 2	Fail class	F1...F8	Warning (F2)			
4670 Delta ana 4/5/6 Inp							
4671	Delta ana4 InpA	Setpoint	Multi-input 6 EIC	Multi-input 6		Designer's Reference Handbook	Delta analogue Inp 4/5/6 settings Choose between multi-inputs, external analogue inputs and EIC values
4672	Delta ana4 InpB	Setpoint	Multi-input 6 EIC	Multi-input 6			
4673	Delta ana5 InpA	Setpoint	Multi-input 6 EIC	Multi-input 6			
4674	Delta ana5 InpB	Setpoint	Multi-input 6 EIC	Multi-input 6			

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
4675	Delta ana6 InpA	Setpoint	Multi-input 6 EIC	Multi-input 6			
4676	Delta ana6 InpB	Setpoint	Multi-input 6 EIC	Multi-input 6			
4680 Delta ana4 1							
4681	Delta ana4 1	Setpoint	-9999 9999	10		Designer's Reference Handbook	Delta analogue alarm setting 4.1
4682	Delta ana4 1	Timer	0.0 s 999.0 s	5.0 s			
4683	Delta ana4 1	Relay output A	Not used	Not used			
4684	Delta ana4 1	Relay output B	Not used	Not used			
4685	Delta ana4 1	Enable	OFF ON	OFF			
4686	Delta ana4 1	Fail class	F1...F8	Warning (F2)			
4690 Delta ana4 2							
4691	Delta ana4 2	Setpoint	-9999 9999	10		Designer's Reference Handbook	Delta analogue alarm setting 4.2
4692	Delta ana4 2	Timer	0.0 s 999.0 s	5.0 s			
4693	Delta ana4 2	Relay output A	Not used	Not used			
4694	Delta ana4 2	Relay output B	Not used	Not used			
4695	Delta ana4 2	Enable	OFF ON	OFF			
4696	Delta ana4 2	Fail class	F1...F8	Warning (F2)			
4700 Delta ana5 1							
4701	Delta ana5 1	Setpoint	-9999 9999	10		Designer's Reference Handbook	Delta analogue alarm setting 5.1
4702	Delta ana5 1	Timer	0.0 s 999.0 s	5.0 s			
4703	Delta ana5 1	Relay output A	Not used	Not used			
4704	Delta ana5 1	Relay output B	Not used	Not used			

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
4705	Delta ana5 1	Enable	OFF ON	OFF			
4706	Delta ana5 1	Fail class	F1...F8	Warning (F2)			
4710 Delta ana5 2							
4711	Delta ana5 2	Setpoint	-9999 9999	10		Designer's Reference Handbook	Delta analogue alarm setting 5.2
4712	Delta ana5 2	Timer	0.0 s 999.0 s	5.0 s			
4713	Delta ana5 2	Relay output A	Not used	Not used			
4714	Delta ana5 2	Relay output B	Not used	Not used			
4715	Delta ana5 2	Enable	OFF ON	OFF			
4716	Delta ana5 2	Fail class	F1...F8	Warning (F2)			
4720 Delta ana6 1							
4721	Delta ana6 1	Setpoint	-9999 9999	10		Designer's Reference Handbook	Delta analogue alarm setting 6.1
4722	Delta ana6 1	Timer	0.0 s 999.0 s	5.0 s			
4723	Delta ana6 1	Relay output A	Not used	Not used			
4724	Delta ana6 1	Relay output B	Not used	Not used			
4725	Delta ana6 1	Enable	OFF ON	OFF			
4726	Delta ana6 1	Fail class	F1...F8	Warning (F2)			
4730 Delta ana6 2							
4731	Delta ana6 2	Setpoint	-9999 9999	10		Designer's Reference Handbook	Delta analogue alarm setting 6.2
4732	Delta ana6 2	Timer	0.0 s 999.0 s	5.0 s			
4733	Delta ana6 2	Relay output A	Not used	Not used			
4734	Delta ana6 2	Relay output B	Not used	Not used			
4735	Delta ana6 2	Enable	OFF ON	OFF			
4736	Delta ana6 2	Fail class	F1...F8	Warning (F2)			

2.5.6 Aux. supply setup

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
4950 U< auxiliary power supply terminal 1.2							
4951	U< aux. term. 1	Setpoint	8 V 32 V	15 V		Designer's Reference Handbook	The power supply on terminal 1 and 2 has been continuously below the adjusted setpoint during the programmed delay.
4952	U< aux. term. 1	Timer	0 s 999 s	1 s			
4953	U< aux. term. 1	Relay output A	Not used Option-dep.	Not used			
4954	U< aux. term.	Relay output B	Not used Option-dep.	Not used			
4955	U< aux. term.	Enable	OFF ON	ON			
4956	U< aux. term.	Fail class	F1...F8	Warning (F2)			
4960 U< auxiliary power supply terminal 1							
4961	U< aux. term. 1	Setpoint	8.0V DC 32.0V DC	18.0V DC		Designer's Reference Handbook	The power supply on terminal 1 and 2 has been continuously below the adjusted setpoint during the programmed delay.
4962	U< aux. term. 1	Timer	0.0 s 999.0 s	1.0 s			
4963	U< aux. term. 1	Relay output A	Not used Option-dep.	Not used			
4964	U< aux. term. 1	Relay output B	Not used Option-dep.	Not used			
4965	U< aux. term. 1	Enable	OFF ON	ON			
4966	U< aux. term. 1	Fail class	F1…F8	Warning (F2)			
4970 U> auxiliary power supply terminal 1							
4971	U> aux. term. 1	Setpoint	12.0V DC 36.0V DC	30.0V DC		Designer's Reference Handbook	The power supply on terminal 1 and 2 has been continuously above the adjusted setpoint during the programmed delay.
4972	U> aux. term. 1	Timer	0.0 s 999.0 s	1.0 s			
4973	U> aux. term. 1	Relay output A	Not used Option-dep.	Not used			
4974	U> aux. term. 1	Relay output B	Not used Option-dep.	Not used			
4975	U> aux. term. 1	Enable	OFF ON	ON			
4976	U> aux. term. 1	Fail class	F1…F8	Warning (F2)			

2.6 System parameters, general setup

2.6.1 Engine heater failure

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Descrip-tion
6330 Engine heater 1							
6331	Engine heater 1	Setpoint	10 deg 250 deg	30 deg		Designer's Reference Handbook	
6332	Engine heater 1	Timer	1.0 s 300.0 s	10.0 s			
6333	Engine heater 1	Relay out-put A	Not used Option-dep.	Not used			
6334	Engine heater 1	Relay out-put B	Not used Option-dep.	Not used			
6335	Engine heater 1	Enable	OFF ON	OFF			
6336	Engine heater 1	Fail class	F1…F8	Warning (F2)			

2.6.2 Battery tests

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
6410 Battery test							
6411	Battery test	Setpoint	8.0 V 32.0 V	18.0 V		Designer's Reference Handbook	If the battery voltage drops below setpoint during crank test, the alarm activates.
6412	Battery test	Timer	1 s 300 s	20 s			
6413	Battery test	Type	Power supply Multi-input 6 Multi-input 7 Multi-input 8	Power supply			
6414	Battery test	Relay output A	Not used Option-dep.	Not used			
6415	Battery test	Enable	OFF ON	OFF			
6416	Battery test	Fail class	F1…F8	Warning (F2)			
6420 Auto battery test							
6421	Auto batt test	Enable	On Off	Off		Designer's Reference Handbook	Automatic battery test time setting.
6422	Auto batt test	Day	Monday Sunday	Monday			
6423	Auto batt test	Hours	0 h 23 h	10 h			
6424	Auto batt test	Week	1 52	52			
6425	Auto batt test	Relay output A	Not used Option-dep.	Not used			

2.6.3 Max. ventilation

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
6470 Max vent 1							
6471	Max vent 1	Setpoint	20 deg 250 deg	95 deg		Designer's Reference Handbook	If the cooling fans fail to operate and the coolant temperature exceeds the setting, the alarm will activate.
6472	Max vent 1	Timer	0.0 s 60.0 s	1.0 s			
6473	Max vent 1	Relay output A	Not used Option-dep.	Not used			
6474	Max vent 1	Relay output B	Not used Option-dep.	Not used			
6475	Max vent 1	Enable	OFF ON	OFF			
6476	Max vent 1	Fail class	F1…F8	Warning (F2)			
6480 Max vent 2							
6481	Max vent 2	Setpoint	20 deg 250 deg	98 deg		Designer's Reference Handbook	If the cooling fans fail to operate and the coolant temperature exceeds the setting, the alarm will activate.
6482	Max vent 2	Timer	0.0 s 60.0 s	1.0 s			
6483	Max vent 2	Relay output A	Not used Option-dep.	Not used			
6484	Max vent 2	Relay output B	Not used Option-dep.	Not used			
6485	Max vent 2	Enable	OFF ON	OFF			
6486	Max vent 2	Fail class	F1…F8	Shutdown (F5)			

2.6.4 Switchboard error - Block and Stop

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
6500 Block switchboard error							
6501	Blk. swbd error	Timer	0.0 s 999.0 s	10.0 s		Designer's Reference Handbook	If the binary input "switchboard error" activates, a stopped generator will be blocked for start. Parameter 6502: OFF: only AMF start is affected ON: All starts are affected.
6502	Blk. swbd error	Parallel	ON OFF	OFF			
6503	Blk. swbd error	Relay output A	Not used Option-dep.	Not used			
6504	Blk. swbd error	Relay output B	Not used Option-dep.	Not used			
6505	Blk. swbd error	Enable	OFF ON	OFF			
6506	Blk. swbd error	Fail class	F1…F8	Warning (F2)			
6510 Stop switchboard error							
6511	Stp. swbd error	Timer	0.0 s 999.0 s	1.0 s		Designer's Reference Handbook	If the binary input "switchboard error" activates, the generator will be stopped.
6512	Stp. swbd error	Relay output A	Not used Option-dep.	Not used			
6513	Stp. swbd error	Relay output B	Not used Option-dep.	Not used			
6514	Stp. swbd error	Enable	OFF ON	OFF			
6515	Stp. swbd error	Fail class	F1…F8	Shut-down			

2.6.5 Switchboard error - Not in auto

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Descrip-tion
6540 Not in auto							
6541	Not in auto	Timer	10.0 s 900.0 s	300.0 s		Designer's Reference Handbook	
6542	Not in auto	Relay output A	Not used Option-dep.	Not used			
6543	Not in auto	Relay output B	Not used Option-dep.	Not used			
6544	Not in auto	Enable	OFF ON	OFF			
6545	Not in auto	Fail class	F1…F8	Warning (F2)			

2.6.6 Avg U BB

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
7480 Avg U BB> 1							
7481	Avg U BB> 1	Setpoint	100.0% 120.0%	110.0%			
7482	Avg U BB> 1	Timer	0.0 s 900.0 s	10.0 s			
7483	Avg U BB> 1	Relay output A	Not used Option-dep.	Not used			
7484	Avg U BB> 1	Enable	OFF ON	OFF			
7485	Avg U BB> 1	Fail class	F1...F8	Trip MB (F6)			
7486	Avg U BB> 1	AVG timer	30.0 s 900.0 s	600.0 s			
7490 Avg U BB> 2							
7491	Avg U BB> 2	Setpoint	100.0% 120.0%	110.0%			
7492	Avg U BB> 2	Timer	0.0 s 900.0 s	10.0 s			
7493	Avg U BB> 2	Relay output A	Not used Option-dep.	Not used			
7494	Avg U BB> 2	Enable	OFF ON	OFF			
7495	Avg U BB> 2	Fail class	F1...F8	Trip MB (F6)			
7496	Avg U BB> 2	AVG timer	30.0 s 900.0 s	600.0 s			

2.7 System parameters, communication

2.7.1 External communication error

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
7520 External communication error							
7521	Ext. comm. error	Delay	1.0 s 100.0 s	10.0 s		Option: Modbus (H2)	Supervision of the external communication line. The alarm will occur when there has not been any communication during the time delay.
7522	Ext. comm. error	Relay output A	Not used Option-dep.	Not used			
7523	Ext. comm. error	Relay output B	Not used Option-dep.	Not used			
7524	Ext. comm. error	Enable	OFF ON	OFF			
7525	Ext. comm. error	Fail class	F1…F8	Warning (F2)			
7530 Internal communication ID							
						Designer's Reference Handbook	The mode decides the reaction of the power management system in case of different errors on the CAN communication lines. Mode: - Manual - Semi auto - No mode change ONLY AGC 14x
7532	Int. comm. ID	CAN fail. mode	Manual Semi auto No mode change	Manual			
7533	Int. comm. ID	Missing all units	F1…F8	Warning (F2)			
7534	Int. comm. ID	Fatal CAN error	F1…F8	Warning (F2)			
7535	Int. comm. ID	Any DG missing	F1…F8	Warning (F2)			
7536	Int. comm. ID	Any mains missing	F1…F8	Warning (F2)			

2.7.2 Engine interface communication alarms

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
7570 EI comm. error							
7571	EI comm. error	Timer	0.0 s 100.0 s	0.0 s		Option: H5	Supervision of the EIC communication line. The alarm will occur when there has not been any communication during the time delay.
7572	EI comm. error	Relay output A	Not used Option-dep.	Not used			
7573	EI comm. error	Relay output B	Not used Option-dep.	Not used			
7574	EI comm. error	Enable	OFF ON	ON			
7575	EI comm. error	Fail class	F1…F8	Warning (F2)			
7576	EI comm. error	IOM C. err. Tim.	0.0 s 100.0 s	2.0 s			
7577	EI comm. error	IOM C. err. Ena.	OFF ON	OFF			
7578	EI comm. error	IOM C. err. FC	F1…F8	Warning (F2)			
7580 EIC warning							
7581	EIC warning	Timer	0.0 s 100.0 s	0.0 s		Option: H5	
7582	EIC warning	Relay output A	Not used Option-dep.	Not used			
7583	EIC warning	Relay output B	Not used Option-dep.	Not used			
7584	EIC warning	Enable	OFF ON	ON			
7585	EIC warning	Fail class	F1…F8	Warning (F2)			
7590 EIC shutdown							
7591	EIC shutdown	Timer	0.0 s 100.0 s	0.0 s		Option: H5	
7592	EIC shutdown	Relay output A	Not used Option-dep.	Not used			
7593	EIC shutdown	Relay output B	Not used Option-dep.	Not used			
7594	EIC shutdown	Enable	OFF ON	OFF			
7595	EIC shutdown	Fail class	F1…F8	Shutdown (F5)			

No.	Setting		Min. Max.	Factory set-ting	Notes	Ref.	Description
7600 EIC overspeed							
7601	EIC overspeed	Setpoint	100.0% 150.0%	110.0%		Option: H5	
7602	EIC overspeed	Timer	0.0 s 100.0 s	5.0 s			
7603	EIC overspeed	Relay output A	Not used Option-dep.	Not used			
7604	EIC overspeed	Relay output B	Not used Option-dep.	Not used			
7605	EIC overspeed	Enable	OFF ON	OFF			
7606	EIC overspeed	Fail class	F1…F8	Warning (F2)			
7610 EIC coolant temp. 1							
7611	EIC coolant t. 1	Setpoint	-40 deg 410 deg	100 deg		Option: H5	
7612	EIC coolant t. 1	Timer	0.0 s 100.0 s	5.0 s			
7613	EIC coolant t. 1	Relay output A	Not used Option-dep.	Not used			
7614	EIC coolant t. 1	Relay output B	Not used Option-dep.	Not used			
7615	EIC coolant t. 1	Enable	OFF ON	OFF			
7616	EIC coolant t. 1	Fail class	F1…F8	Warning (F2)			
7620 EIC coolant temp. 2							
7621	EIC coolant t. 2	Setpoint	-40 deg 410 deg	110 deg		Option: H5	
7622	EIC coolant t. 2	Timer	0.0 s 100.0 s	5.0 s			
7623	EIC coolant t. 2	Relay output A	Not used Option-dep.	Not used			
7624	EIC coolant t. 2	Relay output B	Not used Option-dep.	Not used			
7625	EIC coolant t. 2	Enable	OFF ON	OFF			
7626	EIC coolant t. 2	Fail class	F1…F8	Warning (F2)			
7630 EIC oil pressure 1							
7631	EIC oil press. 1	Setpoint	0.0 bar 145.0 bar	2.0 bar		Option: H5	
7632	EIC oil press. 1	Timer	0.0 s 100.0 s	5.0 s			

No.	Setting		Min. Max.	Factory set-ting	Notes	Ref.	Description
7633	EIC oil press. 1	Relay output A	Not used Option-dep.	Not used			
7634	EIC oil press. 1	Relay output B	Not used Option-dep.	Not used			
7635	EIC oil press. 1	Enable	OFF ON	OFF			
7636	EIC oil press. 1	Fail class	F1…F8	Warning (F2)			
7640 EIC oil pressure 2							
7641	EIC oil press. 2	Setpoint	0.0 bar 145.0 bar	1.0 bar		Option: H5	
7642	EIC oil press. 2	Timer	0.0 s 100.0 s	5.0 s			
7643	EIC oil press. 2	Relay output A	Not used Option-dep.	Not used			
7644	EIC oil press. 2	Relay output B	Not used Option-dep.	Not used			
7645	EIC oil press. 2	Enable	OFF ON	OFF			
7646	EIC oil press. 2	Fail class	F1…F8	Shutdown (F5)			
7650 EIC oil temp 1							
7651	EIC oil temp. 1	Setpoint	0 deg 410 deg	40 deg		Option: H5	
7652	EIC oil temp. 1	Timer	0.0 s 100.0 s	5.0 s			
7653	EIC oil temp. 1	Relay output A	Not used Option-dep.	Not used			
7654	EIC oil temp. 1	Relay output B	Not used Option-dep.	Not used			
7655	EIC oil temp. 1	Enable	OFF ON	OFF			
7656	EIC oil temp. 1	Fail class	F1…F8	Warning (F2)			
7660 EIC oil temp 2							
7661	EIC oil temp. 2	Setpoint	0 deg 410 deg	50 deg		Option: H5	
7662	EIC oil temp. 2	Timer	0.0 s 100.0 s	5.0 s			
7663	EIC oil temp. 2	Relay output A	Not used Option-dep.	Not used			
7664	EIC oil temp. 2	Relay output B	Not used Option-dep.	Not used			

No.	Setting		Min. Max.	Factory set-ting	Notes	Ref.	Description
7665	EIC oil temp. 2	Enable	OFF ON	OFF			
7666	EIC oil temp. 2	Fail class	F1…F8	Shutdown (F5)			
7670 EIC coolant level 1							
7671	EIC coolant level 1	Setpoint	0% 100%	20%		Option: H5	
7672	EIC coolant level 1	Timer	0.0 s 100.0 s	5.0 s			
7673	EIC coolant level 1	Relay output A	Not used Variant-dep.	Not used			
7674	EIC coolant level 1	Relay output B	Not used Variant-dep.	Not used			
7675	EIC coolant level 1	Enable	OFF ON	OFF			
7676	EIC coolant level 1	Fail class	F1...F8	Warning (F2)			
7680 EIC coolant level 2							
7681	EIC coolant level 2	Setpoint	0% 100%	10%		Option: H5	
7682	EIC coolant level 2	Timer	0.0 s 100.0 s	5.0 s			
7683	EIC coolant level 2	Relay output A	Not used Variant-dep.	Not used			
7684	EIC coolant level 2	Relay output B	Not used Variant-dep.	Not used			
7685	EIC coolant level 2	Enable	OFF ON	OFF			
7686	EIC coolant level 2	Fail class	F1...F8	Shutdown (F5)			

2.7.3 Power management communication error

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
7870 Any BTB missing							
7871	Any BTB missing	Fail class	F1…F8	Warning (F2)		Designer's Reference Handbook	The "Any BTB missing" alarm is activated if the communication to any BTB unit failed. The application hazard alarm is activated if different applications are configured in the controllers.
7872	Appl hazard	Enable	ON OFF	ON			
7873	Appl hazard	Fail class	F1…F8	Warning (F2)			

2.7.4 External I/O communication error

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
7930 Ext. I/O comm error							
7931	Ext. I/O comm error	Timer	10.0 s 600.0 s	10.0 s		Option: External I/O modules (H8)	
7932	Ext. I/O comm error	Relay output A	Not used Option-dep.	Not used			
7933	Ext. I/O comm error	Relay output B	Not used Option-dep.	Not used			
7934	Ext. I/O comm error	Enable	OFF ON	ON			
7935	Ext. I/O comm error	Fail class	F1…F8	Warning (F2)			

2.8 External I/O parameters

2.8.1 Analogue inputs

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Descrip-tion
12000 Ext. Ain 1.1							
	Ext. Ain 1.1	Setpoint	0 10	10		Option: External I/O modules (H8.x)	
	Ext. Ain 1.1	Timer	0.0 s 600.0 s	10.0 s			
	Ext. Ain 1.1	Fail class	F1…F8	Warning (F2)			
	Ext. Ain 1.1	Relay output A	Not used Option-dep.	Not used			
	Ext. Ain 1.1	Relay output B	Not used Option-dep.	Not used			
	Ext. Ain 1.1	Enable	OFF ON	OFF			
12010 Ext. Ain 1.2							
	Ext. Ain 1.2	Setpoint	0 10	10		Option: External I/O modules (H8.x)	
	Ext. Ain 1.2	Timer	0.0 s 600.0 s	10.0 s			
	Ext. Ain 1.2	Fail class	F1…F8	Warning (F2)			
	Ext. Ain 1.2	Relay output A	Not used Option-dep.	Not used			
	Ext. Ain 1.2	Relay output B	Not used Option-dep.	Not used			
	Ext. Ain 1.2	Enable	OFF ON	OFF			

The same settings apply to external analogue inputs 2-8, menus 12030-12220.

2.8.2 External analogue input scale

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
12230 4-20 mA Ext in 1 scale							
	4-20 mA Ext in 1 scale	Setpoint	No decimal Two decimal	One decimal		Option: External I/O modules (H8.x)	Selecting "Enable" and writing the new setpoint will scale the associated min., max. and value automatically.
	4-20 mA Ext in 1 scale	Enable	OFF ON	OFF			

2.8.3 Digital inputs

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
12540 Ext. dig. in 1							
	Ext. dig. in 1	Timer	0.0 s 100.0 s	10.0 s		Option: External I/O modules (H8.x)	
	Ext. dig. in 1	Fail class	F1…F8	Warning (F2)			
	Ext. dig. in 1	Relay output A	Not used Option-dep.	Not used			
	Ext. dig. in 1	Relay output B	Not used Option-dep.	Not used			
	Ext. dig. in 1	Enable	OFF ON	OFF			
	Ext. dig. in 1	High alarm	OFF ON	ON			

The same settings apply to external digital inputs 2-16, menus 12550-12690.

3. Parameter list

3.1 General information about the parameter list

3.1.1 Parameter list settings

The parameter list contains settings for regulators and other non-alarm-related settings.

3.2 Control parameter, regulation

3.2.1 Regulation

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
2770 EIC speed control							
2771	Scania control	Droop	0.0% 25.0%	0.0%	Only applicable if "Scania" is selected in menu 7561.	Option H5	Setting of speed control via engine communication interface.
2772	Scania control	rpm	User 1500 RPM 1800 RPM Low idle	User			
2773	Cummins Gain	Kp	0.00 10.00	5.00	Only applicable when "Cummins" is selected in menu 7561.		
2790 EIC speed demand switch							
2791	EIC speed dem. sw.	Local norm sw.	Ana. CAN Up/Down ECU Up/Down CAN Ana. ECU Ana. ECU rel. Frequency	Ana. CAN		Option H5	See description in option H5 manual.
2792	EIC speed dem. sw.	Local Emerg sw.	Ana. CAN Up/Down ECU Up/Down CAN Ana. ECU Ana. ECU rel. Frequency	Ana. CAN			
2793	EIC speed dem. sw.	Remote norm sw.	Ana. CAN Up/Down ECU Up/Down CAN Ana. ECU Ana. ECU rel. Frequency	Ana. CAN			
2794	EIC speed dem. sw.	Remote Emerg sw.	Ana. CAN Up/Down ECU Up/Down CAN Ana. ECU Ana. ECU rel. Frequency	Ana. CAN			

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
2800 PID 1 setup							
2801	PID 1 setup	Input type	Multi-input 6 Multi-input 7 Multi-input 8 MPU EIC Speed EIC Amb. temp EIC Cool. temp EIC Oil temp	Multi-input 6	Only AGC 110	Designer's Reference Handbook	Input and output type are chosen here. The reference point which PID1 should regulate after in auto regulation mode is also chosen here. Note that limiting the output by using the maximum and minimum parameter does not change the resolution of the output.
2802	PID 1 setup	Minimum	0 % 100 %	0.0 %			
2803	PID 1 setup	Maximum	0 % 100 %	100 %			
2804	PID 1 setup	Reference	-32000 32000	50			
2805	PID 1 setup	Input offset	0 % 100 %	50 %			
2806	PID 1 setup	Output type	Relay EIC Speed IOM Term. 7 IOM Term. 9 IOM Term. 12 IOM Term. 14	Relay			
2810 PID 1 control Ana/EIC							
2811	PID 1 control Ana/EIC	Kp	0.00 60.00	0.50	Only AGC 110	Designer's Reference Handbook	Here the different parameters of PID1 are set up. Parameter 2814 is used to change how much the output is changed when the M-Logic command "increase pulse" or "decrease pulse" is issued.
2812	PID 1 control Ana/EIC	Ti	0.00 s 60.00 s	5.00 s			
2813	PID 1 control Ana/EIC	Td	0.00 s 2.00 s	0.00 s			
2814	PID 1 control Ana/EIC	Man Err scaling	0.1 100.0	1.0			
2820 PID 1 control							
2821	PID 1 control	Dead-band	0.0 % 10.0 %	2.0 %	Only AGC 110	Designer's Reference Handbook	Deadband and Kp for the relay control are configured here. When using relay regulation, a deadband under 0.2% is not recommended.
2822	PID 1 control	Relay kp	0.00 10.00	1.00			

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
2830 PID 1 relay control							
2831	PID 1 relay control	ON time	10 ms 6500 ms	500 ms	Only AGC 110	Designer's Reference Handbook	Relay configuration of how long the relay is ON when activated. Also, how the relay can be activated can be configured with the period parameter. Which relays that are used for increase and decrease is also chosen here.
2832	PID 1 relay control	Period time	50 ms 32500 ms	2500 ms			
2833	PID 1 relay control	Increase relay	Not used Option-dep.	Not used			
2834	PID 1 relay control	Decrease relay	Not used Option-dep.	Not used			
2840 PID 2 setup							
2841	PID 2 setup	Input type	Multi-input 6 Multi-input 7 Multi-input 8 MPU EIC Speed EIC Amb. temp EIC Cool. temp EIC Oil temp	Multi-input 6	Only AGC 110	Designer's Reference Handbook	Input and output type are chosen here. The reference point which PID2 should regulate after in auto regulation mode is also chosen here. Note that limiting the output by using the maximum and minimum parameter does not change the resolution of the output.
2842	PID 2 setup	Minimum	0.0 % 100.0 %	0.0 %			
2843	PID 2 setup	Maximum	0.0 % 100.0 %	100.0 %			
2844	PID 2 setup	Reference	-32000 32000	50			
2845	PID 2 setup	Input offset	0 % 100 %	50 %			
2846	PID 2 setup	Output type	Relay EIC Speed IOM Term. 7 IOM Term. 9 IOM Term. 12 IOM Term. 14	Relay			

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
2850 PID 2 control Ana/EIC							
2851	PID 2 control Ana/EIC	Kp	0.00 60.00	0.50	Only AGC 110	Designer's Reference Handbook	Here the different parameters of PID2 are set up. Parameter 2854 is used to change how much the output is changed when the M-Logic command "increase pulse" or "decrease pulse" is issued.
2852	PID 2 control Ana/EIC	Ti	0.00 s 60.00 s	5.00 s			
2853	PID 2 control Ana/EIC	Td	0.00 s 2.00 s	0.00 s			
2854	PID 2 control Ana/EIC	Man Err scaling	0.1 100.0	1.0			
2860 PID 2 control							
2861	PID 2 control	Dead-band	0.0 % 10.0 %	2.0 %	Only AGC 110	Designer's Reference Handbook	Deadband and Kp for the relay control are configured here. When using relay regulation, a deadband under 0.2% is not recommended.
2862	PID 2 control	Relay kp	0.00 10.00	1.00			
2870 PID 2 relay control							
2871	PID 2 relay control	ON time	10 ms 6500 ms	500 ms	Only AGC 110	Designer's Reference Handbook	Relay configuration of how long the relay is ON when activated. Also, how the relay can be activated can be configured with the period parameter. Which relays that are used for increase and decrease is also chosen here.
2872	PID 2 relay control	Period time	50 ms 32500 ms	2500 ms			
2873	PID 2 relay control	Increase relay	Not used Option-dep.	Not used			
2874	PID 2 relay control	Decrease relay	Not used Option-dep.	Not used			

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
2880 PID 3 setup							
2881	PID 3 setup	Input type	Multi-input 6 Multi-input 7 Multi-input 8 MPU EIC Speed EIC Amb. temp EIC Cool. temp EIC Oil temp	Multi-input 6	Only AGC 110	Designer's Reference Handbook	Input and output type are chosen here. The reference point which PID3 should regulate after in auto regulation mode is also chosen here. Note that limiting the output by using the maximum and minimum parameter does not change the resolution of the output.
2882	PID 3 setup	Minimum	0.0 % 100.0 %	0.0 %			
2883	PID 3 setup	Maximum	0.0 % 100.0 %	100.0 %			
2884	PID 3 setup	Reference	-32000 32000	50			
2885	PID 3 setup	Input offset	0 % 100 %	50 %			
2886	PID 3 setup	Output type	Relay EIC Speed IOM Term. 7 IOM Term. 9 IOM Term. 12 IOM Term. 14	Relay			
2890 PID 3 control Ana/EIC							
2891	PID 3 control Ana/EIC	Kp	0.00 60.00	0.50	Only AGC 110	Designer's Reference Handbook	Here the different parameters of PID3 are set up. Parameter 2894 is used to change how much the output is changed when the M-Logic command "increase pulse" or "decrease pulse" is issued.
2892	PID 3 control Ana/EIC	Ti	0.00 s 60.00 s	5.00 s			
2893	PID 3 control Ana/EIC	Td	0.00 s 2.00 s	0.00 s			
2894	PID 3 control Ana/EIC	Man Err scaling	0.1 100.0	1.0			
2900 PID 3 control							
2901	PID 3 control	Dead-band	0.0 % 10.0 %	2.0 %	Only AGC 110	Designer's Reference Handbook	Deadband and Kp for the relay control are configured here. When using relay regulation, a deadband under 0.2% is not recommended.
2902	PID 3 control	Relay kp	0.00 10.00	1.00			

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
2910 PID 3 relay control							
2911	PID 3 relay control	ON time	10 ms 6500 ms	500 ms	Only AGC 110	Designer's Reference Handbook	Relay configuration of how long the relay is ON when activated. Also, how the relay can be activated can be configured with the period parameter. Which relays that are used for increase and decrease is also chosen here.
2912	PID 3 relay control	Period time	50 ms 32500 ms	2500 ms			
2913	PID 3 relay control	Increase relay	Not used Option-dep.	Not used			
2914	PID 3 relay control	Decrease relay	Not used Option-dep.	Not used			

3.3 Control parameters, output setup

3.3.1 Digital output setup

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
5000 Relay 03							
5001	Relay 03	Function	Alarm relay ND Alarm relay NE	Horn relay		Designer's Reference Handbook	Function selections: - Alarm relay ND - Limit relay - Horn relay - Alarm relay NE
5002	Relay 03	OFF delay	0.0 s 999.9 s	5.0 s			
5010 Relay 21							
5011	Relay 21	Function	Alarm relay ND Alarm relay NE	Alarm relay ND		Designer's Reference Handbook	Function selections: - Alarm relay ND - Limit relay - Horn relay - Alarm relay NE
5012	Relay 21	OFF delay	0.0 s 999.9 s	5.0 s			
5020 Relay 22							
5021	Relay 22	Function	Alarm relay ND Alarm relay NE	Alarm relay ND		Designer's Reference Handbook	Function selections: - Alarm relay ND - Limit relay - Horn relay - Alarm relay NE
5022	Relay 22	OFF delay	0.0 s 999.9 s	5.0 s			
5030 Relay 23							
5031	Relay 23	Function	Alarm relay ND Alarm relay NE	Alarm relay ND		Designer's Reference Handbook	Function selections: - Alarm relay ND - Limit relay - Horn relay - Alarm relay NE
5032	Relay 23	OFF delay	0.0 s 999.9 s	5.0 s			
5040 Relay 24							
5041	Relay 24	Function	Alarm relay ND Alarm relay NE	Alarm relay ND		Designer's Reference Handbook	Function selections: - Alarm relay ND - Limit relay - Horn relay - Alarm relay NE
5042	Relay 24	OFF delay	0.0 s 999.9 s	5.0 s			

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
5050 Relay 26							
5051	Relay 26	Function	Alarm relay ND Alarm relay NE	Alarm relay ND		Designer's Reference Handbook	Function selections: - Alarm relay ND - Limit relay - Horn relay - Alarm relay NE
5052	Relay 26	OFF delay	0.0 s 999.9 s	5.0 s			
5060 Relay 45							
5061	Relay 45	Function	Alarm relay ND Alarm relay NE	Alarm relay ND		Designer's Reference Handbook	Function selections: - Alarm relay ND - Limit relay - Horn relay - Alarm relay NE
5062	Relay 45	OFF delay	0.0 s 999.9 s	5.0 s			
5070 Relay 47							
5071	Relay 47	Function	Alarm relay ND Alarm relay NE	Alarm relay ND		Designer's Reference Handbook	Function selections: - Alarm relay ND - Limit relay - Horn relay - Alarm relay NE
5072	Relay 47	OFF delay	0.0 s 999.9 s	5.0 s			

3.4 System parameters

These menus include parameters for the system setup.

3.5 System parameters, general setup

3.5.1 General setup

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
6000 Nominal settings 1							
6001	Nom. settings	Frequency	48.0 Hz 62.0 Hz	50.0 Hz		Designer's Reference Handbook	The selection of nominal settings to be used is set in menu 6006. A binary input or selection in M-logic can also be used.
6002	Nom. settings	Power	10 kW 20000 kW	480 kW			
6003	Nom. settings	Current	0 A 9000 A	867 A			
6004	Nom. settings	Voltage	100 V 160 kV	400 V			
6005	Nom. settings	RPM	100 RPM 4000 RPM	1500 RPM			
6006	Nom. settings	Setting	1 4	1			
6010 Nominal settings 2							
6011	Nom. settings 2	Frequency	48.0 Hz 62.0 Hz	50.0 Hz		Designer's Reference Handbook	
6012	Nom. settings 2	Power	10 kW 20000 kW	230 kW			
6013	Nom. settings 2	Current	0 A 9000 A	345 A			
6014	Nom. settings 2	Voltage	100 V 160 kV	480 V			
6015	Nom. settings 2	RPM	100 RPM 4000 RPM	1500 RPM			
6020 Nominal settings 3							
6021	Nom. settings 3	Frequency	48.0 Hz 62.0 Hz	60.0 Hz		Designer's Reference Handbook	
6022	Nom. settings 3	Power	10 kW 20000 kW	230 kW			
6023	Nom. settings 3	Current	0 A 9000 A	345 A			
6024	Nom. settings 3	Voltage	100 V 160 kV	480 V			
6025	Nom. settings 3	RPM	100 RPM 4000 RPM	1800 RPM			

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
6030 Nominal settings 4							
6031	Nom. settings 4	Frequency	48.0 Hz 62.0 Hz	60.0 Hz		Designer's Reference Handbook	
6032	Nom. settings 4	Power	10 kW 20000 kW	230 kW			
6033	Nom. settings 4	Current	0 A 9000 A	345 A			
6034	Nom. settings 4	Voltage	100 V 160 kV	480 V			
6035	Nom. settings 4	RPM	100 RPM 4000 RPM	1800 RPM			
6040 Gen/Mains/busbar A transformer							
6041	G/M/ transformer	U primary	100 V 160 kV	400 V		Designer's Reference Handbook	If no voltage transformer is present, the primary and secondary side values are set to generator nominal value.
6042	G/M/ transformer	U secondary	100 V 480 V	400 V			
6043	G/M/ transformer	I primary	5 A 9000 A	1000 A			
6044	G/M/ transformer	I secondary	1 A 5 A	5 A			
6050 Busbar settings							
6051	BB transformer	U primary	100 V 160 kV	400 V		Designer's Reference Handbook	If no voltage transformer is present, the primary and secondary side values are set to generator nominal value.
6052	BB transformer	U secondary	100 V 480 V	400 V			
6053	BB transformer	Nominal U 1	100 V 160 kV	400 V			
6054	BB transformer	Bus nom. set	Param set 1 Param set 2	Param set 1			
6060 Busbar settings 2							
6061	BB transformer	U primary	100 V 160 kV	400 V		Designer's Reference Handbook	If no voltage transformer is present, the primary and secondary side values are set to generator nominal value.
6062	BB transformer	U secondary	100 V 480 V	400 V			
6063	BB transformer	Nominal U 2	100 V 160 kV	400 V			

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
6070 Genset mode							
6071	Genset mode		Island Power manage-ment			Designer's Reference Handbook	Selections are: -Island -Auto Mains Failure -Peak Shaving(14x) -Fixed power(14x) -Mains power export(14x) -Load takeover -Power management (AGC 14x)
6080 Language							
6081	Language		English Language 11	English		Designer's Reference Handbook	The master language is English. Additionally, 11 different languages can be configured with the PC utility software.

3.5.2 Counters and timers

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
6100 Counters							
6101	Counters	Running hour	0 hrs 999 hrs	0 hrs		Designer's Reference Handbook	Setting 6105 resets the kWh counter to 0. It automatically reverts to OFF after being set ON.
6102	Counters	Running, th. hours	0 th. hrs 999 th. hrs	0 th. hrs			
6103	Counters	GB/TB/ BTB operations	0 20000	0			
6104	Counters	MB operations	0 20000	0			
6105	Counters	kWh	OFF ON	OFF			
6106	Counters	Start attempts	0 20000	0			
6110 Service timer 1							
6111	Service timer 1	Enable	OFF ON	ON		Designer's Reference Handbook	The timer is reset by enabling menu 6116. The menu automatically goes OFF.
6112	Service timer 1	Running hours	0 hrs 9000 hrs	500 hrs			
6113	Service timer 1	Days	1 days 1000 days	365 days			
6114	Service timer 1	Fail class	F1...F8	F2 (Warning)			
6115	Service timer 1	Output A	Not used Option-dep.	Not used			
6116	Service timer 1	Reset	OFF ON	OFF			
6120 Service timer 2							
6121	Service timer 2	Enable	OFF ON	ON		Designer's Reference Handbook	The timer is reset by enabling menu 6126. The menu automatically goes OFF.
6122	Service timer 2	Running hours	0 hrs 9000 hrs	500 hrs			
6123	Service timer 2	Days	1 days 1000 days	365 days			
6124	Service timer 2	Fail class	F1...F8	F2 (Warning)			
6125	Service timer 2	Relay output A	Not used Option-dep.	Not used			
6126	Service timer 2	Reset	OFF ON	OFF			

3.5.3 Alarm horn

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
6130 Alarm horn							
6131	Alarm horn	ON time	0.0 sec 990.0 sec	20.0 sec		Designer's Reference Handbook	If the setting is adjusted to 0 s, the horn relay will be activated continuously until the alarm is acknowledged.

3.5.4 Run coil setup

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
6150 Run coil setup							
6151	Run coil setup	ON time	0.0 sec 600.0 sec	1.0 sec		Designer's Reference Handbook	
6152	Run coil setup	Type	Pulse Continuous	Pulse		Designer's Reference Handbook	Pulse: reset for each start attempt. Continuous: high throughout all start attempts.

3.5.5 Running, start and stop

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
6160 Run status							
6161	Run status	Timer	0.0 s 300.0 s	5.0 s		Designer's Reference Handbook	If a relay output is used, the relay in question must be set to "limit".
6162	Run status	Relay output A	Not used Option-dep.	Not used			
6163	Run status	Relay output B	Not used Option-dep.	Not used			
6164	Run status	Enable	OFF ON	OFF			
6165	Freq. Detect Lvl	Setpoint	20 Hz 35 Hz	32 Hz			
6170 Running detection							
6171	Running detect.	No. of teeth	0 teeth 500 teeth	0 teeth		Designer's Reference Handbook	If menu 6171 is set to 0, the magnetic pickup input is not active. Available running detection types: - Binary input - MPU input - Frequency - EIC (engine communication) If menu 6175 is set to 0.0, the oil pressure running detection is OFF.
6172	Running detect.	Type	Binary input EIC	Frequency			
6173	Running detect.	Running RPM	0 RPM 4000 RPM	1000 RPM			
6174	Running detect.	Remove starter	1 RPM 2000 RPM	400 RPM			
6175	Running detect.	Pressure level	0.0 bar 150.0 bar	0.0 bar			
6180 Starter							
6181	Starter	Start prepare	0.0 s 600.0 s	5.0 s		Designer's Reference Handbook	Menu 6185 and 6186 relate to using oil pressure as running feedback. If menu 6186 is set to 0.0, the oil pressure running feedback is disregarded.
6182	Starter	Ext. prepare	0.0 s 600.0 s	0.0 s			
6183	Starter	Start ON time	1.0 s 600.0 s	5.0 s			
6184	Starter	Start OFF time	1.0 s 99.0 s	5.0 s			
6185	Starter	Input type	Multi-input 102 Multi-input 108	Multi-input 102			

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
6186	Starter	Setpoint	0.0 bar 300.0 bar	0.0 bar			
6190 Start attempts							
6191	Std. attempts	Setpoint	1 100	3		Designer's Reference Handbook	Number of start attempts before "start failure alarm".
6192	Double attempts	Setpoint	0 10	0		Designer's Reference Handbook	Number of start attempts before redirecting start signal
6200 Shutdown override							
6201	Shut-down override	Attempts	1 10	7		Designer's Reference Handbook	Shutdown override turns all shutdowns into warnings. Only exception is overspeed and emergency stop.
6202	Shut-down override	Cooling down	0 s 9900 s	240 s			
6203	Shut-down override	Enable	OFF ON	OFF			
6210 Stop							
6211	Stop	Cooling down	0.0 s 9900.0 s	240.0 s		Designer's Reference Handbook	The extended stop timer starts when the running feedback disappears. During the delay time it is not possible to start the engine.
6212	Stop	Extended stop	0.0 s 300.0 s	5.0 s			
6213	Stop	TYPE	Multi-input 102 EIC	Multi-input 102			
6214	Stop	Setpoint	0 deg. 482 deg.	0 deg.			
6220 Hz/V OK							
6221	HZ/V OK	Timer	0.0 s 99.0 s	5.0 s		Designer's Reference Handbook	The voltage and frequency have to be continuously within the limits during the delay timer before the breaker can be closed.

3.5.6 Breaker control

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
6230 Gen/Mains breaker control							
6231	GB/MB control	Close delay	0.0 s 30.0 s	2.0 s		Designer's Reference Handbook	Menu 6232 is for compact breakers (need to charge spring before closing).
6232	GB/MB control	Load time	0.0 s 30.0 s	0.0 s			

3.5.7 Idle start

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
6290 Idle running							
6291	Idle start	Start timer	0.0 sec. 59940.0 sec.	18000.0 sec.		Designer's Reference Handbook	
6292	Idle start	Enable start	OFF ON	OFF			
6293	Idle stop	Stop timer	0.0 sec. 59940.0 sec.	18000.0 sec.			
6294	Idle stop	Enable stop	OFF ON	OFF			
6295	Idle active	Relay output A	Not used Option-dep.	Not used			
6296	Idle active	Enable	OFF ON	OFF			

3.5.8 Engine heater

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
6320 Engine heater							
6321	Engine heater	Setpoint	20 deg. 250 deg.	40 deg.		Designer's Reference Handbook	Heater function for standstill. Type: - Multi-input 6 - Multi-input 7 - Multi-input 8 - EIC
6322	Engine heater	Relay output A	Not used Option-dep.	Not used			
6323	Engine heater	Type	Multi-inp 6 EIC	Multi-inp 6			
6324	Engine heater	Hystere-sis	1 deg. 70 deg.	3 deg.			
6325	Engine heater	Enable	OFF ON	OFF			

3.5.9 Cooling ventilation

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
6460 Max. ventilation							
6461	Max. ventila-tion	Setpoint	20 deg. 250 deg.	90 deg.		Designer's Ref-erence Hand-book	Ventilation fan control.
6462	Max. ventila-tion	Relay out-put A	Not used Option-dep.	Not used			
6463	Max. ventila-tion	Hysteresis	1 deg. 70 deg.	5 deg.			
6464	Max. ventila-tion	Enable	OFF ON	OFF			

3.5.10 Summer/winter time

No.	Setting		Min. Max.	Factory set-ting	Notes	Ref.	Description
6490 Summer/winter time							
6491	Sum/win time	Enable	OFF ON	OFF		Designer's Ref-erence Hand-book	The summer/winter time change follows the mainland Europe rules.

3.5.11 Fuel transfer pump logic

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
6550 Fuel pump logic							
6551	Fuel pump logic	Setpoint start	0% 100%	20%		Designer's Reference Handbook	Type: - Multi-input 6 - Multi-input 7 - Multi-input 8
6552	Fuel pump logic	Setpoint stop	0% 100%	80%			
6553	Fuel pump logic	Fill check time	0.1 s 999.9 s	60.0 s			
6554	Fuel pump logic	Relay output A	Not used Option-dep.	Not used			
6555	Fuel pump logic	Setpoint	Multi-inp 102 Multi-inp 108	Multi-inp 102			
6556	Fuel pump logic	Fail class	F1…F8	Warning (F2)			
6557	Fuel pump logic	Fill slope	1% 10%	2%			

3.5.12 Fan logic

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
6560 Fan input settings							
6561	Fan input	Type	-Multi-input 6 -Multi-input 7 -Multi-input 8	Multi-input 6		Designer's Reference Handbook	Selection of fan input: - Multi-input 6 - Multi-input 7 - Multi-input 8
6562	Fan prio update	Priority	0 h 200 h	0 h			
6563	1st prio fan	Setpoint start	20 deg 250 deg	70 deg			
6564	1st pr. fan	Hysteresis	0 deg 50 deg	10 deg			
6565	2nd prio fan	Setpoint start	20 deg 250 deg	80 deg			
6566	2nd pr. fan	Hysteresis	0 deg 50 deg	10 deg			
6570 3rd prio fan							
6571	3rd prio fan	Setpoint start	20 deg 250 deg	90 deg		Designer's Reference Handbook	Selection of fan input: - Multi-input 6 - Multi-input 7 - Multi-input 8
6572	3rd pr. fan	Hysteresis	0 deg 50 deg	10 deg			
6573	4th prio fan	Setpoint start	20 deg 250 deg	100 deg			
6574	4th pr. fan	Hysteresis	0 deg 50 deg	10 deg			
6580 Fan A output							
6581	Fan A output	Relay output A	Not used Option-dep.	Not used		Designer's Reference Handbook	Selection of fan input: - Multi-input 6 - Multi-input 7 - Multi-input 8
6582	Fan B output	Relay output B	Not used Option-dep.	Not used			
6583	Fan C output	Relay output C	Not used Option-dep.	Not used			
6584	Fan D output	Relay output D	Not used Option-dep.	Not used			
6585	Fan run. hour reset	Reset	OFF ON	OFF			
6586	Fan start delay	Timer	0.0 s 30.0 s	10.0 s			

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
6590 Fan A failure							
6591	Fan A failure	Timer	0.1 s 300.0 s	10.0 s		Designer's Reference Handbook	
6592	Fan A failure	Output A	Not used Option-dep.	Not used			
6593	Fan A failure	Output B	Not used Option-dep.	Not used			
6594	Fan A failure	Enable	OFF ON	OFF			
6595	Fan A failure	Fail class	F1...F8	Warning (F2)			
6600 Fan B failure							
6601	Fan B failure	Timer	0.1 s 300.0 s	10.0 s		Designer's Reference Handbook	
6602	Fan B failure	Output A	Not used Option-dep.	Not used			
6603	Fan B failure	Output B	Not used Option-dep.	Not used			
6604	Fan B failure	Enable	OFF ON	OFF			
6605	Fan B failure	Fail class	F1...F8	Warning (F2)			
6610 Fan C failure							
6611	Fan C failure	Timer	0.1 s 300.0 s	10.0 s		Designer's Reference Handbook	
6612	Fan C failure	Output A	Not used Option-dep.	Not used			
6613	Fan C failure	Output B	Not used Option-dep.	Not used			
6614	Fan C failure	Enable	OFF ON	OFF			
6615	Fan C failure	Fail class	F1...F8	Warning (F2)			
6620 Fan D failure							
6621	Fan D failure	Timer	0.1 s 300.0 s	10.0 s		Designer's Reference Handbook	
6622	Fan D failure	Output A	Not used Option-dep.	Not used			
6623	Fan D failure	Output B	Not used Option-dep.	Not used			
6624	Fan D failure	Enable	OFF ON	OFF			
6625	Fan D failure	Fail class	F1...F8	Warning (F2)			

3.5.13 I thermal demand

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
6840 I thermal demand							
6841	I thermal demand	Timer	0 min. 20 min.	8 min.		Designer's Reference Handbook	Setup of I thermal average period.
6842	I thermal demand	Enable	OFF ON	OFF			Enabled is used for reset.
6843	I max. demand	Enable	OFF ON	OFF			Reset I max. demand.

3.5.14 Pulse counter

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
6850 Pulse counter 1							
6851	Pulse counter 1	Setpoint	0 1000	1		Designer's Reference Handbook	Setup of pulse counter setpoint.
6852	Pulse counter 1	Unit	Unit/pulse Pulse/unit	Unit/pulse			
6853	Pulse counter 1	Decimals	No decimals One decimal Two decimals Three decimals	No decimals			
6860 Pulse counter 2							
6861	Pulse counter 2	Setpoint	0 1000	1		Designer's Reference Handbook	Setup of pulse counter setpoint.
6862	Pulse counter 2	Unit	Unit/pulse Pulse/unit	Unit/pulse			
6863	Pulse counter 2	Decimals	No decimals One decimal Two decimals Three decimals	No decimals			

3.5.15 Oil renewal

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
6890 Oil renewal							
6891	Oil renewal	Setpoint	1 h 9999 h	750 h		Designer's Reference Handbook	Setup of the oil renewal function.
6892	Oil renewal	Relay output A	Not used Option-dep.	Not used			
6893	Oil renewal	Reset timer	100 h 10000 h	1000 h			

3.5.16 Alarm jump

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
6900 Alarm jump							
6901	Alarm jump	Enable	OFF ON	ON		Designer's Reference Handbook	Selection of jump to alarm list view on the display if an alarm appears (ON), or stay at present view (OFF).

3.5.17 Command timers

There are four identical command timers in the unit, menu 6960-6996, but only command timer 1 is displayed in this manual.

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
6960 Command start/stop timer 1							
6961	Start timer 1 days	Setpoint	MO MO-TU-WE-TH-FR-SA-SU	OFF		Designer's Reference Handbook	Selections are: MO TU WE TH FR SA SU MO-TU-WE-TH MO-TU-WE-TH-FR SA-SU MO-TU-WE-TH-FR-SA-SU
6962	Start timer 1 hour	Setpoint	0 23	10		Designer's Reference Handbook	
6963	Start timer 1 min	Setpoint	0 59	0		Designer's Reference Handbook	
6964	Stop timer 1 days	Setpoint	MO MO-TU-WE-TH-FR-SA-SU	MO-TU-WE-TH-FR-SA-SU		Designer's Reference Handbook	Selections are: MO TU WE TH FR SA SU MO-TU-WE-TH MO-TU-WE-TH-FR SA-SU MO-TU-WE-TH-FR-SA-SU
6965	Stop timer 1 hour	Setpoint	0 23	10		Designer's Reference Handbook	
6966	Stop timer 1 min	Setpoint	0 59	0		Designer's Reference Handbook	

Start/stop timers can be used in M-Logic.

3.6 System parameters, mains setup

3.6.1 Mains setup

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
7000 Mains/Test							
7001	Mains power	Day	-20000 kW 20000 kW	750 kW		Designer's Reference Handbook	Menu 7000 is for peak shaving/ mains power export modes. Set values in the AGC mains unit. Menu 7001/7002 must be a positive value for mains power export or peak shaving mode. Menu 7001/7002 must be a negative value for mains power import.
7002	Mains power	Night	-20000 kW 20000 kW	1000 kW			
7010 Daytime period							
7011	Daytime period	Start hour	0 h 23 h	8 h		Designer's Reference Handbook	Menu 7010 is for peak shaving/ mains power export modes. The period outside the daytime period is defined as the night period.
7012	Daytime period	Start minute	0 min 59 min	0 min			
7013	Daytime period	Stop hour	0 h 23 h	16 h			
7014	Daytime period	Stop period	0 min 59 min	0 min			
7020 Start generator							
7021	Start generator	Set-point	5% 100%	80%		Designer's Reference Handbook	Menu 7020 is for peak shaving/ mains power export modes. The setpoint refers to the menu 7000 mains power setting.
7022	Start generator	Timer	0.0 s 990.0 s	10.0 s			
7023	Start generator	Minimum load	0% 100%	5%			
7030 Stop generator							
7031	Stop generator	Set-point	0% 80%	60%		Designer's Reference Handbook	Menu 7030 is for peak shaving/ mains power export modes. The setpoint refers to the menu 7000 mains power setting.
7032	Stop generator	Timer	0.0 s 990.0 s	30.0 s			

3.6.2 Test

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
7040 Test							
7041	Test	Setpoint	1 kW 20000 kW	500 kW		Designer's Reference Handbook	Available test types: - Simple (engine run only) - Full (disconnects mains)
7042	Test	Timer	0.0 min. 999.0 min.	5.0 min.			
7043	Test	Return mode	Semi-auto mode Auto mode	Auto mode			
7044	Test	Test type	Simple test Full test	Simple test			

3.6.3 Controller settings

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
7050 Fixed power settings							
7051	Fixed power settings	Setpoint	0 kW 20000 kW	500 kW		Designer's Reference Handbook	Fixed power parallel with mains settings.
7052	Fixed power settings	Power factor	0.60 1.00	0.90			
7053	Fixed power settings	Type	Inductive Capacitive	Inductive			
7054	Fixed power settings	Enable	OFF ON	OFF			

3.6.4 Mains failure

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
7060 U Mains Failure							
7061	U Mains failure	Fail. delay	0.5 s 990.0 s	5.0 s		Designer's Reference Handbook	Menus 7063 and 7064 relate to nominal settings. Menu 7066 refers to the mean value of the measured voltage.
7062	U Mains failure	Mains OK delay	10 s 9900 s	60 s			
7063	U Mains failure	U<	80% 100%	90%			
7064	U Mains failure	U>	100% 120%	110%			
7065	U Mains failure	Mains fail. control	Start eng. + open MB Start engine	Start eng. + open MB			
7066	U Mains failure	U unbalance	2% 100%	100%			
7070 f Mains Failure							
7071	f Mains failure	Fail. delay	0.5 s 990.0 s	5.0 s		Designer's Reference Handbook	Menus 7073 and 7074 relate to nominal settings.
7072	f Mains failure	Mains OK delay	10 s 9900 s	60 s			
7073	f Mains failure	f<	80.0% 100.0%	95.0%			
7074	f Mains failure	f>	100.0% 120.0%	105.0%			
7080 MB control							
7081	MB control	Mode shift	OFF ON	OFF		Designer's Reference Handbook	Mode shift allows switching to AMF mode.
7082	MB control	MB close delay	0.0 s 30.0 s	0.5 s			
7083	MB control	Back sync.	OFF ON	OFF			
7084	MB control	Sync to Mains	OFF ON	ON			
7085	MB control	Load time	0.0 s 30.0 s	0.0 s			

3.7 System parameters, external communication

3.7.1 External communication

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
7510 External communication							
7511	Ext. communication	ID	1 247	1		Option H2	The mode ASCII is used for modem communication (ASCII: 7 data bit, RTU: 8 data bit).
7512	Ext. communication	Baud rate	9600 19200	9600		Option H2	
7513	Ext. communication	Mode	RTU ASCII	RTU		Option H2	

3.7.2 Power management internal communication

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
7530 Internal communication ID							
7531	Int. comm. ID	ID	1 16	1		Designer's Reference Handbook	

3.8 System parameters, engine interface communication

3.8.1 Engine interface communication

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
7560 Engine I/F							
7561	Engine I/F	En-gine type	OFF DDEC EMR JDEC Iveco Perkins Caterpillar Volvo Penta Volvo Penta EMS 2 Scania EMS Scania EMS 2 MDEC 2000/4000 M. 302 MDEC 2000/4000 M. 303 MTU ADEC Cummins Generic J1939 MTU J1939 Smart Connect	OFF		Option H5	Please choose MDEC 2000/4000 M. 303 when M.201 or M.304 is required. Menu 7562 is only applicable when MTU ADEC is selected as engine type. Menu 7563 is for enabling the EIC commands trans-mission. Menu 7564: When set to “ON”, up to 19 extra views (of 3 lines) are added to the 15 original V1 views (of 3 lines). These extra views are display-ing all the present engine com. values broadcasted on this CAN communication when this function is set to “ON”. Menu 7565: "Caterpillar CDVR" will **not** work if MTU protocols are selected in menu 7561.
7562	CAN-open ID	Node ID	0 16	6			
7563	EIC Con-trols	Ena-ble	OFF ON	ON			
7564	EIC Auto view	Ena-ble	OFF ON	OFF			
7840 CAN protocol select							
7841	CAN A	Set-point	OFF PM Primary PM Secondary	OFF			CAN PM is ONLY available in AGC 14x
7842	CAN B	Set-point	OFF PM Primary PM Secondary	OFF			

3.9 System parameters, external I/O communication setup

3.9.1 External I/O communication setup

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
7950 KL320x config							
7951	KL320x config	Module 1	Pt100 (2/3-wire) 10-1200 Ω (2-wire)			Option: External I/ O modules (H8)	Selection for analogue modules. The selections for KL 3202/3204 cannot be changed. After changing module type, the parameter list in the PC USW must be uploaded again.
7952	KL320x config	Module 2					
7953	KL320x config	Module 3					
7954	KL320x config	Module 4					
7970 CAN 2							
7971	CAN 2	Type	OFF Beckhoff	OFF		Option: External I/ O modules (H8)	Menu 7974 is for reestablishing communication after a fault/disconnection.
7972	CAN 2	Baud	50k 125k 250k	125k			
7973	CAN 2	ID	1 to 64	1			
7974	CAN 2	Reset	OFF ON	OFF			
8180 Mains config.							
8181	Mb failure start	Enable	OFF ON	OFF			Only available in AGC 146
8183	No break transfer	Enable	OFF ON	OFF			-Dynamic section-All sections
8184	Auto switch	Select	OFFAll sections	OFF			
8185	Run type	Select	Run all mains Run one mains	Run one mains			
8186	Run type	ID to run	17 32	17			
8190 Tie breaker							
8191	Tie breaker	TB open point	0 kW20000 kW				Only available in AGC 146.

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
8192	Tie breaker	Power-Capacity	1 kW20000 kW				
8193	Tie breaker	P. cap. Overrule	5.0 s999.9 s				
8194	Tie breaker	P cap. Overrule	OFF ON				
8195	Tie breaker	Load time	0.0 s30.0 s				
911x Password							
9116	User password	Setting	032000	2000		Designer's Reference Handbook	It is recommended to change the password levels of the user, service and master password if access to parameter settings must be restricted
9117	Service passwrd	Setting	032000	2001			
9118	Master password	Setting	032000	2002			

3.9.2 AC config.

This menu is used to choose the AC configuration.

No.	Setting		Description
9130 AC config.			
9130	AC config.	Setting	Selections: ● 3 phase L1L2L3 ● 2 phase L1L3 ● 2 phase L1L2 ● 1 phase L1

	Phase angles:	
	L1L2L3	120 degrees with neutral.
	L1L3	180 degrees (split phase, neutral in the centre).
	L1L2	120 degrees with neutral.
	L1	Single phase with phase-neutral.

3.9.3 Display control

This menu is used to control parameters for the display on the unit

No.	Setting	Description
9150 Backlight dim		
9151	Backlight dim	Sets the light intensity for the display
9152	Contrast level	Sets the contrast for the display
9153	Sleep mode timer	Sets the time before the unit enters sleep mode
9154	Sleep mode disable	Disables or enables sleep mode

3.9.4 Application select

No.	Setting	Min. Max	Factory setting	Notes	Ref.	Description
9160 Application select						
9160	Application select	Appl 1 Appl 4	Appl. 1		Designer's Reference Handbook	The 4 different applications available make it possible to shift between different plant.

3.9.5 9180 Quick setup (AGC mains)

This menu makes it possible to set up the power management application without using the "Application configuration" tool in the PC utility software.

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
9180 Quick setup							
9181	Quick setup	Mode	OFF Setup stand alone Setup plant	OFF			When using this menu, it will not be possible to design ap- plications with AGC bus tie units. ONLY available for AGC 146
9182	Quick setup	CAN	OFF CAN A CAN B CAN A + B	CAN A			
9183	Quick setup	MB	Pulse No MB Continuous Compact	Pulse			
9184	Quick setup	GB	Pulse Continuous Compact	Pulse			
9185	Quick setup	Mains	Mains present No mains present	Mains present			
9186	Quick setup	Plant type	Standard Single DG	Standard			

3.9.6 9190 Application broadcast

This menu makes it possible to broadcast an application between all AGC units connected on the CAN A or CAN B line.

ONLY available for AGC 146

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Descrip-tion
9190 Application broadcast							
9191	Application broadcast	Enable	OFF Broadcast Broadcast + activate	OFF			
9192	Application broadcast	Application	Application 1 Application 2 Application 3 Application 4	Application 1			

3.10 System parameters, utility software

3.10.1 GSM settings

GSM settings are only accessible in the utility software.

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Descrip-tion
10320 GSM Pin code							
10320	GSM Pin code	Function	0 9999	1933		Designer's Reference Handbook	
10330 Telephone no. 1							
10330	Telephone 1	Function	0 99999999999	12345678903		Designer's Reference Handbook	

Telephone numbers 2-5 are available in menus 10340-10373.

3.10.2 Passwords

Password settings are only accessible in the utility software.

No.	Setting	Min. Max.	Factory setting	Notes	Ref.	Description
10390 Password language page						
10390	Passw. lang. page	None Customer	None		Designer's Reference Handbook	Selections are: - None - Master - Service - Customer
10400 Password log page						
10400	Passw. log page	None Customer	None		Designer's Reference Handbook	Selections are: - None - Master - Service - Customer
10410 Password control page						
10410	Passw. control page	None Customer	None		Designer's Reference Handbook	Selections are: - None - Master - Service - Customer

3.11 System parameters, RMI inputs

3.11.1 RMI 6

RMI 6 settings are only accessible in the utility software.

No.	Setting	Min. Max.	Factory setting	Notes	Ref.	Description
10460 RMI 1 type						
10460	RMI 1 type	Sensor type 1 Configurable RMI	Sensor type 1		Designer's Reference Handbook	Selections are: -Sensor type 1 -Sensor type 2 -Sensor type 3 -Configurable RMI
10470 RMI 1 input setpoint 1						
10470	RMI 1 inp. setp. 1	0 Ohm 1800 Ohm	10 Ohm		Designer's Reference Handbook	Configurable RMI curve.
10480 RMI 1 output setpoint 1						
10480	RMI 1 outp. setp. 1	-49 482	40		Designer's Reference Handbook	Configurable RMI curve.
10490 RMI 1 input setpoint 2						
10490	RMI 1 inp. setp. 2	0 Ohm 1800 Ohm	44.9 Ohm		Designer's Reference Handbook	Configurable RMI curve.
10500 RMI 1 output setpoint 2						
10500	RMI 1 outp. setp. 2	-49 482	50		Designer's Reference Handbook	Configurable RMI curve.
10510 RMI 1 input setpoint 3						
10510	RMI 1 inp. setp. 3	0 Ohm 1800 Ohm	81 Ohm		Designer's Reference Handbook	Configurable VDO curve.
10520 RMI 1 output setpoint 3						
10520	RMI 1 outp. setp. 3	-49 482	60		Designer's Reference Handbook	Configurable RMI curve.
10530 RMI 1 input setpoint 4						
10530	RMI 1 inp. setp. 4	0 Ohm 1800 Ohm	134.7 Ohm		Designer's Reference Handbook	Configurable RMI curve.
10540 RMI 1 output setpoint 4						
10540	RMI 1 outp. setp. 4	-49 482	80		Designer's Reference Handbook	Configurable RMI curve.
10550 RMI 1 input setpoint 5						
10550	RMI 1 inp. setp. 5	0 Ohm 1800 Ohm	184 Ohm		Designer's Reference Handbook	Configurable RMI curve.

No.	Setting	Min. Max.	Factory setting	Notes	Ref.	Description
10560 RMI 1 output setpoint 5						
10560	RMI 1 outp. setp. 5	-49 482	100		Designer's Reference Handbook	Configurable RMI curve.
10570 RMI 1 input setpoint 6						
10570	RMI 1 inp. setp. 6	0 Ohm 1800 Ohm	200 Ohm		Designer's Reference Handbook	Configurable RMI curve.
10580 RMI 1 output setpoint 6						
10580	VDO 1 outp. setp. 6	-49 482	110		Designer's Reference Handbook	Configurable RMI curve.
10590 RMI 1 input setpoint 7						
10590	RMI 1 inp. setp. 7	0 Ohm 1800 Ohm	210 Ohm		Designer's Reference Handbook	Configurable RMI curve.
10600 RMI 1 output setpoint 7						
10600	RMI 1 outp. setp. 7	-49 482	115		Designer's Reference Handbook	Configurable RMI curve.
10610 RMI 1 input setpoint 8						
10610	RMI 1 inp. setp. 8	0 Ohm 1800 Ohm	220 Ohm		Designer's Reference Handbook	Configurable RMI curve.
10620 RMI 1 output setpoint 8						
10620	RMI 1 outp. setp. 8	-49 482	120		Designer's Reference Handbook	Configurable RMI curve.

3.11.2 RMI 7

RMI 7 settings are only accessible in the utility software.

Menus 10630-10790 equal the settings for RMI 6 (10460-10620).

3.11.3 RMI 8

RMI 8 settings are only accessible in the utility software.

Menus 10800-10960 equal the settings for RMI 6(10460-10620).

3.11.4 Multi-input selections

No.	Setting	Min. Max.	Factory setting	Notes	Ref.	Description
10970 Engineering units						
10970	Engineering units	Bar/Celsius Psi/Fahrenheit	Bar/Celsius			
10980 Multi-input configuration 6						
10980	Multi-inp. conf. 6	4-20 mA Binary	Binary			Possible selections: 4-20 mA Pt1000 RMI oil pressure RMI water temp RMI fuel level Binary
10990 Multi-input configuration 7						
10990	Multi-inp. conf. 7	4-20 mA Binary	Binary			Possible selections: 4-20 mA Pt1000 RMI oil pressure RMI water temp RMI fuel level
11000 Multi-input configurable 8						
11000	Multi-inp. conf. 8	4-20 mA Binary	Binary			Possible selections: 4-20 mA RMI oil pressure RMI water temp RMI fuel level Binary

3.11.5 4-20 mA input scaling

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
11010 4-20 mA input scale 6							
	4-20 mA input scale 6	Setpoint	None 1/1 Ohm 1/10	mA 1/1			Selecting "Enable" and writing the new setpoint will scale the associated min., max. and value automatically. Choose between several units and up to 2 decimals
	4-20 mA input scale 6	Enable	None 1/1 Ohm 1/10	mA 1/1			

The same settings apply to menus 11020-11110.

3.12 System parameters, external digital outputs

3.12.1 External digital outputs

No.	Setting		Min. Max.	Factory setting	Notes	Ref.	Description
12790 Ext. dig. out 1							
	Ext. dig. out 1	Function	Alarm relay ND Limit Alarm relay NE	Alarm relay ND		Option: External I/O modules (H8)	
	Ext. dig. out 1	OFF delay	0.0 s 999.9 s	5.0 s			

The same settings apply to menus 12800-12940.

3.12.2 External module status

No.	Setting	Min. Max.	Notes	Ref.	Description
12950	Ext module 0 STATUS	-32768 32767		Option: External I/O modules (H8)	This is a number read in the external module and displayed in the USW only. Please refer to option H8 description for details.

The same settings apply to menus 12951-12983 (external modules 1 to 33).