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# PARAMETER LIST



## Compact Genset Controller, CGC 400

- Alarm list
- Parameter list

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Document no.: 4189340789A
SW version:

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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 unit, the company responsible for the installation or the operation of the set must be contacted.

**The 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 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.**

**DEIF do not recommend to use the USB as the primary power supply for the unit.**

### 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 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 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:

Set point: The alarm set point is adjusted in the set point 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.

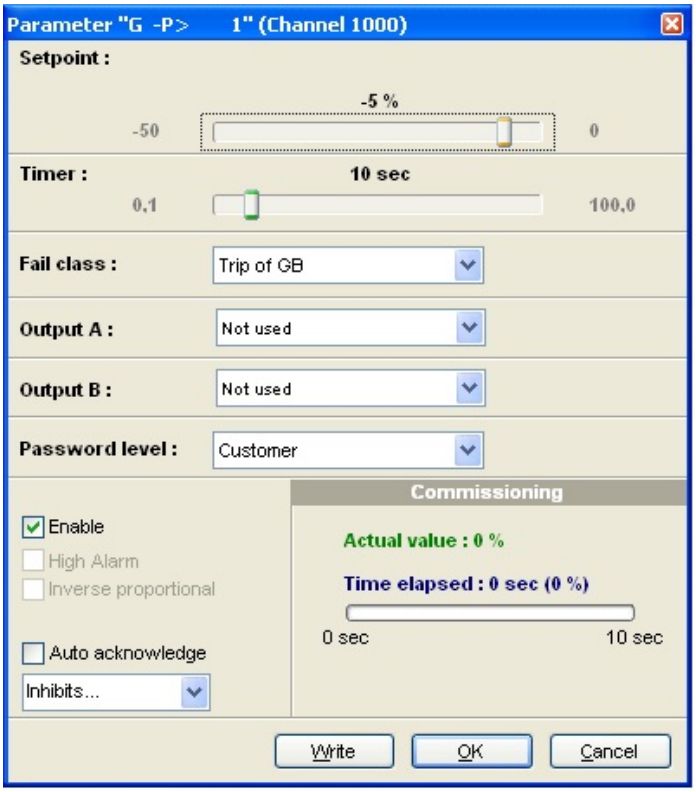
Fail classes are:

| 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 | 10.0 s | | | |
| 1003 | –P> 1 | Relay output A | Not used Option-depend-ent | Not used | | | |
| 1004 | –P> 1 | Relay output B | Not used Option-depend-ent | 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-depend-ent | Not used | | | |
| 1014 | –P> 2 | Relay output B | Not used Option-depend-ent | Not used | | | |
| 1015 | –P> 2 | Enable | OFF ON | ON | | | |
| 1016 | –P> 2 | Fail class | F1…F8 | Trip GB (F3) | | | |
| **1030 Overcurrent 1** | | | | | | | |

| No. | Setting | | Min. Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|---|
| 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-depend-ent | Not used | | | |
| 1034 | I> 1 | Relay output B | Not used Option-depend-ent | 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-depend-ent | Not used | | | |
| 1044 | I> 2 | Relay output B | Not used Option-depend-ent | 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-depend-ent | Not used | | | |

| No. | Setting | | Min. Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|---|
| 1054 | I> 3 | Relay output B | Not used Option-depend-ent | 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-depend-ent | Not used | | | |
| 1064 | I> 4 | Relay output B | Not used Option-depend-ent | Not used | | | |
| 1065 | I> 4 | Enable | OFF ON | ON | | | |
| 1066 | I> 4 | Fail class | F1…F8 | Trip GB (F3) | | | |
| **1080 I> inverse** | | | | | | | |
| 1081 | I> in-verse Type | Set point | IEC In-verse Custom | IEC In-verse | | Designer's Reference Handbook | Type selections are:<br>IEC Inverse<br>IEC Very Inverse<br>IEC Extremely Inv.<br>IEEE Moderately Inv.<br>IEEE Very Inverse<br>IEEE Extremely Inv.<br>Custom<br><br>Output B is only available in the utility software. |
| 1082 | I> in-verse Limit | Set point | 50 % 200 % | 110.0 % | | | |
| 1083 | I> in-verse TMS | Set point | 0.1 100.0 | 1.0 | | | |
| 1084 | I> in-verse k | Set point | 0.001 s 32.000 s | 0.140 s | | | |
| 1085 | I> in-verse c | Set point | 0.000 s 32.000 s | 0.000 s | | | |
| 1086 | I> in-verse a | Set point | 0.001 32.000 | 0.020 | | | |

| No. | Setting | | Min. Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|---|
| 1087 | I> inverse | Relay output A | Not used Option-dependent | Not used | | | |
| 1088 | I> inverse | Enable | OFF ON | ON | | | |
| 1089 | I> inverse | 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 activated when the current has been continuously above the programmed value during the programmed delay. |
| 1132 | I>> 1 | Timer | 0.0 s 100.0 s | 2.0 s | | | |
| 1133 | I>> 1 | Relay output A | Not used Option-dependent | Not used | | | |
| 1134 | I>> 1 | Relay output B | Not used Option-dependent | 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 activated 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 | Relay output A | Not used Option-dependent | Not used | | | |
| 1144 | I>> 2 | Relay output B | Not used Option-dependent | 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 overvoltage 1** | | | | | | | |
| 1151 | G 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. |
| 1152 | G U> 1 | Timer | 0.1 s 100.0 s | 10.0 s | | | |
| 1153 | G U> 1 | Relay output A | Not used Option-dep. | Not used | | | |
| 1154 | G U> 1 | Relay output B | Not used Option-dep. | Not used | | | |
| 1155 | G U> 1 | Enable | OFF ON | OFF | | | |
| 1156 | G U> 1 | Fail class | F1…F8 | Warning (F2) | | | |
| **1160 G overvoltage 2** | | | | | | | |
| 1161 | G 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. |
| 1162 | G U> 2 | Timer | 0.1 s 100.0 s | 5.0 s | | | |
| 1163 | G U> 2 | Relay output A | Not used Option-dep. | Not used | | | |
| 1164 | G U> 2 | Relay output B | Not used Option-dep. | Not used | | | |
| 1165 | G U> 2 | Enable | OFF ON | OFF | | | |
| 1166 | G U> 2 | Fail class | F1…F8 | Warning (F2) | | | |
| **1170 G undervoltage 1** | | | | | | | |
| 1171 | G 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. |
| 1172 | G U< 1 | Timer | 0.1 s 100.0 s | 10.0 s | | | |
| 1173 | G U< 1 | Relay output A | Not used Option-dep. | Not used | | | |

| No. | Setting | | Min. Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|---|
| 1174 | G U< 1 | Relay output B | Not used Option-dep. | Not used | | | |
| 1175 | G U< 1 | Enable | OFF ON | OFF | | | |
| 1176 | G U< 1 | Fail class | F1…F8 | Warning (F2) | | | |
| **1180 G undervoltage 2** | | | | | | | |
| 1181 | G 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 U< 2 | Timer | 0.1 s 100.0 s | 5.0 s | | | |
| 1183 | G U< 2 | Relay output A | Not used Option-dep. | Not used | | | |
| 1184 | G U< 2 | Relay output B | Not used Option-dep. | Not used | | | |
| 1185 | G U< 2 | Enable | OFF ON | OFF | | | |
| 1186 | G U< 2 | Fail class | F1…F8 | Warning (F2) | | | |
| **1190 G undervoltage 3** | | | | | | | |
| 1191 | G 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 U< 3 | Timer | 0.1 s 100.0 s | 5.0 s | | | |
| 1193 | G U< 3 | Relay output A | Not used Option-dep. | Not used | | | |
| 1194 | G U< 3 | Relay output B | Not used Option-dep. | Not used | | | |
| 1195 | G U< 3 | Enable | OFF ON | OFF | | | |
| 1196 | G U< 3 | Fail class | F1...F8 | Warning (F2) | | | |

## 2.2.3 Frequency protections

**Frequency settings relate to the nominal frequency setting.**

| No. | Setting | | Min. Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|---|
| **1210 G overfrequency 1** | | | | | | | |
| 1211 | G 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 f> 1 | Timer | 0.2 s 100.0 s | 10.0 s | | | |
| 1213 | G f> 1 | Relay output A | Not used Option-dependent | Not used | | | |
| 1214 | G f> 1 | Relay output B | Not used Option-dependent | Not used | | | |
| 1215 | G f> 1 | Enable | OFF ON | OFF | | | |
| 1216 | G f> 1 | Fail class | F1…F8 | Warning (F2) | | | |
| **1220 G overfrequency 2** | | | | | | | |
| 1221 | G 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 f> 2 | Timer | 0.2 s 100.0 s | 5.0 s | | | |
| 1223 | G f> 2 | Relay output A | Not used Option-dependent | Not used | | | |
| 1224 | G f> 2 | Relay output B | Not used Option-dependent | Not used | | | |
| 1225 | G f> 2 | Enable | OFF ON | OFF | | | |
| 1226 | G f> 2 | Fail class | F1…F8 | Warning (F2) | | | |
| **1230 G overfrequency 3** | | | | | | | |

| No. | Setting | | Min. Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|---|
| 1231 | G 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 f> 3 | Timer | 0.2 s 100.0 s | 5.0 s | | | |
| 1233 | G f> 3 | Relay output A | Not used Option-depend-ent | Not used | | | |
| 1234 | G f> 3 | Relay output B | Not used Option-depend-ent | Not used | | | |
| 1235 | G f> 3 | Enable | OFF ON | OFF | | | |
| 1236 | G f> 3 | Fail class | F1…F8 | Warning (F2) | | | |
| **1240 G underfrequency 1** | | | | | | | |
| 1241 | G 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 f<1 | Timer | 0.2 s 100.0 s | 10.0 s | | | |
| 1243 | G f<1 | Relay output A | Not used Option-depend-ent | Not used | | | |
| 1244 | G f<1 | Relay output B | Not used Option-depend-ent | Not used | | | |
| 1245 | G f<1 | Enable | OFF ON | OFF | | | |
| 1246 | G f<1 | Fail class | F1…F8 | Warning (F2) | | | |
| **1250 G underfrequency 2** | | | | | | | |
| 1251 | G 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 f<2 | Timer | 0.2 s 100.0 s | 5.0 s | | | |
| 1253 | G f<2 | Relay output A | Not used Option-depend-ent | Not used | | | |

| No. | Setting | | Min. Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|---|
| 1254 | G f<2 | Relay output B | Not used Option-depend-ent | Not used | | | |
| 1255 | G f<2 | Enable | OFF ON | OFF | | | |
| 1256 | G f<2 | Fail class | F1…F8 | Warning (F2) | | | |
| **1260 G underfrequency 3** | | | | | | | |
| 1261 | G 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 f<3 | Timer | 0.2 s 100.0 s | 5.0 s | | | |
| 1263 | G f<3 | Relay output A | Not used Option-depend-ent | Not used | | | |
| 1264 | G f<3 | Relay output B | Not used Option-depend-ent | Not used | | | |
| 1265 | G f<3 | Enable | OFF ON | OFF | | | |
| 1266 | G 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 | 0.00 s 99.99 s | 10.00 s | | | |
| 1273 | BB U> 1 | Relay output A | Not used Option-dependent | Not used | | | |
| 1274 | BB U> 1 | Relay output B | Not used Option-dependent | 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 | 0.00 s 99.99 s | 10.00 s | | | |
| 1283 | BB U> 2 | Relay output A | Not used Option-dependent | Not used | | | |
| 1284 | BB U> 2 | Relay output B | Not used Option-dependent | Not used | | | |
| 1285 | BB U> 2 | Enable | OFF ON | OFF | | | |
| 1286 | BB U> 2 | Fail class | F1…F8 | Warning (F2) | | | |
| **1300 Busbar undervoltage 1** | | | | | | | |

| No. | Setting | | Min. Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|---|
| 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-dependent | Not used | | | |
| 1304 | BB U< 1 | Relay output B | Not used Option-dependent | 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 | 5.00 s | | | |
| 1313 | BB U< 2 | Relay output A | Not used Option-dependent | Not used | | | |
| 1314 | BB U< 2 | Relay output B | Not used Option-dependent | Not used | | | |
| 1315 | BB U< 2 | Enable | OFF ON | OFF | | | |
| 1316 | BB U< 2 | Fail class | F1…F8 | Warning (F2) | | | |

## 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 | 0.00 s 99.99 s | 10.00 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 | 5.00 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) | | | |
| **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 | 10.00 s | | | |

| No. | Setting | | Min. Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|---|
| 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 | 5.00 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) | | | |

## 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 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.<br>Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|---|
| **1990 U and Q< 1** | | | | | | | |
| 1991 | I Min. 1 | Set point | 0 %<br>20 % | 0 % | | Option A1 | Settings relate to U and Q< parameters 1960 and 1970.<br>Condition for "U and Q<" trip is that the current exceeds the I Min. set point.<br>Min. Phi angle expands the tripping window. |
| 1992 | Angle 1 | Set point | 0 °<br>6 ° | 0 ° | | | |
| **1990 U and Q< 2** | | | | | | | |
| 1993 | I Min. 2 | Set point | 0 %<br>20 % | 0 % | | Option A1 | Settings relate to U and Q< parameters 1960 and 1970.<br>Condition for "U and Q<" trip is that the current exceeds the I Min. set point.<br>Min. Phi angle expands the tripping window. |
| 1994 | Angle 2 | Set point | 0 °<br>6 ° | 0 ° | | | |

# 2.3 Breaker control parameters

## 2.3.1 Breaker alarms

| No. | Setting | | Min. Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|---|
| **2110 Sync. blackout** | | | | | | | |
| 2111 | Sync. blackout | dfMax. | 0.0 Hz<br>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 %<br>10 % | 5 % | | | |
| **2150 Phase sequence error** | | | | | | | |
| 2151 | Phase seq error | Relay output A | Not used<br>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<br>Option-dep. | Not used | | | |
| 2153 | Phase seq error | Fail class | F1…F8 | Block (F1) | | | |
| 2154 | Phase rotation | Set point | L1L2L3<br>L1L3L2 | L1L2L3 | | | |
| **2160 GB open failure** | | | | | | | |
| 2161 | GB open fail | Timer | 1.0 s<br>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 open fail | Relay output A | Not used<br>Option-dep. | Not used | | | |
| 2163 | GB open fail | Relay output B | Not used<br>Option-dep. | Not used | | | |
| 2164 | GB open fail | Enable | OFF<br>ON | ON | | | |
| 2165 | GB open fail | Fail class | F1…F8 | Warning (F2) | | | |
| **2170 GB breaker close failure** | | | | | | | |
| 2171 | GB close fail | Timer | 1.0 s<br>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 close fail | Relay output A | Not used<br>Option-dep. | Not used | | | |

| No. | Setting | | Min. Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|---|
| 2173 | GB close fail | Relay output B | Not used Option-dep. | Not used | | | |
| 2174 | GB close fail | Enable | OFF ON | ON | | | |
| 2175 | GB close fail | Fail class | F1…F8 | Warning (F2) | | | |
| **2180 GB breaker position failure** | | | | | | | |
| 2181 | GB 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 pos fail | Relay output A | Not used Option-dep. | Not used | | | |
| 2183 | GB pos fail | Relay output B | Not used Option-dep. | Not used | | | |
| 2184 | GB pos fail | Enable | OFF ON | ON | | | |
| 2185 | GB 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 | OFF 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 | | | |

| No. | Setting | | Min. Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|---|
| 2213 | MB close fail | Relay output B | Not used Option-dep. | Not used | | | |
| 2214 | MB close fail | Enable | OFF ON | ON | | | |
| 2215 | MB close fail | Fail class | F1…F8 | Warning (F2) | | | |
| **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 | OFF ON | ON | | | |
| 2225 | MB pos fail | Fail class | F1…F8 | Warning (F2) | | | |

| No. | Setting | | Min. setting | Max. setting | Factory setting |
|---|---|---|---|---|---|
| **2770 EIC control** | | | | | |
| 2771 | EIC control | Droop | 0.0 % | 25.0 % | 0.0 % |
| 2772 | EIC control | Scania rpm | User 1500 rpm 1800 rpm Low Idle | | User |
| 2773 | EIC control | Cummins gain | 0.00 | 10.00 | 5.00 |
| **2790 EIC speed demand switch** | | | | | |
| 2791 | EIC speed demand switch | Local normal sw. | Analogue CAN UpDown ECU UpDown CAN Analogue ECU Analogue ECU relative Frequency | | Analogue CAN |
| 2792 | EIC speed demand switch | Local emergency sw. | | | |
| 2793 | EIC speed demand switch | Remote normal sw. | | | |
| 2794 | EIC speed demand switch | Remote emergency sw. | | | |

# 2.4 Input/output parameters, binary input setup

## 2.4.1 Digital input 10-15 and 56-57 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 and 56-57, menus 3010 to 3070.**

## 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.<br>(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.<br>(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) | | | |
| **3420 Digital input 8** | | | | | | | |

| No. | Setting | | Min. Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|---|
| 3421 | Wire fail 8 | Enable | OFF | OFF | | Designer's Reference Handbook | The input is configurable and can have different functions in different units.<br>(Only available if multi-input 8 is configured to "binary" in menu 11000). |
| 3422 | Dig. input 8 | Timer | 0.0 s<br>100.0 s | 10.0 s | | | |
| 3423 | Dig. input 8 | Relay output A | Not used<br>Option-dep. | Not used | | | |
| 3424 | Dig. input 8 | Relay output B | Not used<br>Option-dep. | Not used | | | |
| 3425 | Dig. input 8 | Enable | OFF<br>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<br>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<br>Option-dependent | Not used | | | |
| 3493 | Emer. stop | Relay output B | Not used<br>Option-dependent | Not used | | | |
| 3494 | Emer. stop | Enable | OFF<br>ON | ON | | | |
| 3495 | Emer. stop | Fail class | F1…F8 | Shutdown (F5) | | | |

## 2.4.4 M-Logic alarm 1-5 setup

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

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

# 2.5 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 | Set point | 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 | Set point | 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 Pt100/Pt1000 6.1** | | | | | | | |
| 4161 | PT 6.1 | Set point | -49 482 | 80 | | Designer's Reference Handbook | The multi-input 6 has been configured as 'Pt100' or 'Pt1000'. |
| 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 | | | Pt100/Pt1000 set point can be in deg. C or F, dependent on the unit selection (menu 10970). |
| 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 Pt100/Pt1000 6.2** | | | | | | | |
| 4171 | PT 6.2 | Set point | -49 482 | 80 | | Designer's Reference Handbook | The multi-input 6 has been configured as 'Pt100' or 'Pt1000'. Pt100/Pt1000 set point 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 Resistance measurement input, oil pressure 6.1** | | | | | | | |
| 4181 | RMI oil 6.1 | Set point | 0.0 145.0 | 2.0 | | Designer's Reference Handbook | The multi-input 6 has been configured as 'RMI oil pressure'. Oil pressure set point 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) | | | |

| No. | Setting | | Min. Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|---|
| **4190 Resistance measurement input, oil pressure 6.2** | | | | | | | |
| 4191 | RMI oil 6.2 | Set point | 0.0<br>145.0 | 1.0 | | Designer's Reference Handbook | The multi-input 6 has been configured as 'RMI oil pressure'.<br>Oil pressure set point can be in Bar or PSI, dependent on the unit selection (menu 10970). |
| 4192 | RMI oil 6.2 | Timer | 0.0 s<br>999.0 s | 5.0 s | | | |
| 4193 | RMI oil 6.2 | Relay output A | Not used<br>Option-dep. | Not used | | | |
| 4194 | RMI oil 6.2 | Relay output B | Not used<br>Option-dep. | Not used | | | |
| 4195 | RMI oil 6.2 | Enable | OFF<br>ON | OFF | | | |
| 4196 | RMI oil 6.2 | Fail class | F1…F8 | Shut-down (F5) | | | |
| **4200 Resistance measurement input, water temperature 6.1** | | | | | | | |
| 4201 | RMI water 6.1 | Set point | -49<br>482 | 100 | | Designer's Reference Handbook | The multi-input 6 has been configured as 'RMI water temperature'.<br>Water temperature set point can be in deg. C or F, dependent on the unit selection (menu 10970). |
| 4202 | RMI water 6.1 | Timer | 0.0 s<br>999.0 s | 5.0 s | | | |
| 4203 | RMI water 6.1 | Relay output A | Not used<br>Option-dep. | Not used | | | |
| 4204 | RMI water 6.1 | Relay output B | Not used<br>Option-dep. | Not used | | | |
| 4205 | RMI water 6.1 | Enable | OFF<br>ON | OFF | | | |
| 4206 | RMI water 6.1 | Fail class | F1…F8 | Warning (F2) | | | |
| **4210 Resistance measurement input, water temperature 6.2** | | | | | | | |
| 4211 | RMI water 6.2 | Set point | -49<br>482 | 110 | | Designer's Reference Handbook | The multi-input 6 has been configured as 'RMI water temperature'.<br>Water temperature set point can be in deg. C or F, dependent on the unit selection (menu 10970). |
| 4212 | RMI water 6.2 | Timer | 0.0 s<br>999.0 s | 5.0 s | | | |

| No. | Setting | | Min. Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|---|
| 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 | | | |
| 4215 | RMI water 6.2 | Enable | OFF ON | OFF | | | |
| 4216 | RMI water 6.2 | Fail class | F1…F8 | Trip + Stop (F4) | | | |
| **4220 Resistance measurement input, fuel level 6.1** | | | | | | | |
| 4221 | RMI fuel 6.1 | Set point | 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 Resistance measurement input, fuel level 6.2** | | | | | | | |
| 4231 | RMI fuel 6.2 | Set point | 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 | Set point | 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 class | F1…F8 | Warning (F2) | | | |
| **4260 4-20 mA 7.2** | | | | | | | |
| 4261 | 4-20 mA 7.2 | Set point | 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 class | F1…F8 | Warning (F2) | | | |
| **4290 Pt100/Pt1000 7.1** | | | | | | | |
| 4291 | PT 7.1 | Set point | -49 482 | 80 | | Designer's Reference Handbook | The multi-input 7 has been configured as 'Pt100' or 'Pt1000'. |
| 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 | | | Pt100/Pt1000 set point can be in deg. C or F, dependent on the unit selection (menu 10970). |
| 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 Pt100/Pt1000 7.2** | | | | | | | |
| 4301 | PT 7.2 | Set point | -49 482 | 80 | | Designer's Reference Handbook | The multi-input 7 has been configured as 'Pt100' or 'Pt1000'. Pt100/Pt1000 set point 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 class | F1...F8 | Warning (F2) | | | |
| **4310 Resistance measurement input, oil pressure 7.1** | | | | | | | |
| 4311 | RMI oil 7.1 | Set point | 0.0 145.0 | 2.0 | | Designer's Reference Handbook | The multi-input 7 has been configured as 'RMI oil pressure'. Oil pressure set point 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 Resistance measurement input, oil pressure 7.2** | | | | | | | |
| 4321 | RMI oil 7.2 | Set point | 0.0<br>145.0 | 1.0 | | Designer's Reference Handbook | The multi-input 7 has been configured as 'RMI oil pressure'.<br>Oil pressure set point can be in Bar or PSI, dependent on the unit selection (menu 10970). |
| 4322 | RMI oil 7.2 | Timer | 0.0 s<br>999.0 s | 5.0 s | | | |
| 4323 | RMI oil 7.2 | Relay output A | Not used<br>Option-dep. | Not used | | | |
| 4324 | RMI oil 7.2 | Relay output B | Not used<br>Option-dep. | Not used | | | |
| 4325 | RMI oil 7.2 | Enable | OFF<br>ON | OFF | | | |
| 4326 | RMI oil 7.2 | Fail class | F1…F8 | Shut-down (F5) | | | |
| **4330 Resistance measurement input, water temperature 7.1** | | | | | | | |
| 4331 | RMI water 7.1 | Set point | -49<br>482 | 100 | | Designer's Reference Handbook | The multi-input 7 has been configured as 'RMI water temperature'.<br>Water temperature set point can be in deg. C or F, dependent on the unit selection (menu 10970). |
| 4332 | RMI water 7.1 | Timer | 0.0 s<br>999.0 s | 5.0 s | | | |
| 4333 | RMI water 7.1 | Relay output A | Not used<br>Option-dep. | Not used | | | |
| 4334 | RMI water 7.1 | Relay output B | Not used<br>Option-dep. | Not used | | | |
| 4335 | RMI water 7.1 | Enable | OFF<br>ON | OFF | | | |
| 4336 | RMI water 7.1 | Fail class | F1…F8 | Warning (F2) | | | |
| **4340 Resistance measurement input, water temperature 7.2** | | | | | | | |
| 4341 | RMI water 7.2 | Set point | -49<br>482 | 110 | | Designer's Reference Handbook | The multi-input 7 has been configured as 'RMI water temperature'.<br>Water temperature set point can be in deg. C or F, dependent on the unit selection (menu 10970). |
| 4342 | RMI water 7.2 | Timer | 0.0 s<br>999.0 s | 5.0 s | | | |

| No. | Setting | | Min. Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|---|
| 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 | Trip + Stop (F4) | | | |
| **4350 Resistance measurement input, fuel level 7.1** | | | | | | | |
| 4351 | RMI fuel 7.1 | Set point | 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 | | | |
| 4555 | RMI fuel 7.1 | Enable | OFF ON | OFF | | | |
| 4356 | RMI fuel 7.1 | Fail class | F1…F8 | Warning (F2) | | | |
| **4360 Resistance measurement input, fuel level 7.2** | | | | | | | |
| 4361 | RMI fuel 7.2 | Set point | 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) | | | |

| No. | Setting | | Min. Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|---|
| **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 | Set point | 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 | Set point | 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) | | | |
| **4420 Pt100/Pt1000 8.1** | | | | | | | |
| 4421 | PT 8.1 | Set point | -49 482 | 80 | | Designer's Reference Handbook | The multi-input 8 has been configured as 'Pt100' or 'Pt1000'. |
| 4422 | PT 8.1 | Timer | 0.0 s 999.0 s | 5.0 s | | | |

| No. | Setting | | Min. Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|---|
| 4423 | PT 8.1 | Relay output A | Not used<br>Option-dep. | Not used | | | Pt100/Pt1000 set point can be in deg. C or F, dependent on the unit selection (menu 10970). |
| 4424 | PT 8.1 | Relay output B | Not used<br>Option-dep. | Not used | | | |
| 4425 | PT 8.1 | Enable | OFF<br>ON | OFF | | | |
| 4426 | PT 8.1 | Fail class | F1…F8 | Warning (F2) | | | |
| 4427 | PT 8.1 | Offset | 0.0 Ohm<br>5.0 Ohm | 0.0 Ohm | | | |
| **4430 Pt100/Pt1000 8.2** | | | | | | | |
| 4431 | PT 8.2 | Set point | -49<br>482 | 80 | | Designer's Reference Handbook | The multi-input 8 has been configured as 'Pt100' or 'Pt1000'.<br>Pt100/Pt1000 set point can be in deg. C or F, dependent on the unit selection (menu 10970). |
| 4432 | PT 8.2 | Timer | 0.0 s<br>999.0 s | 10.0 s | | | |
| 4433 | PT 8.2 | Relay output A | Not used<br>Option-dep. | Not used | | | |
| 4434 | PT 8.2 | Relay output B | Not used<br>Option-dep. | Not used | | | |
| 4435 | PT 8.2 | Enable | OFF<br>ON | OFF | | | |
| 4436 | PT 8.2 | Fail class | F1...F8 | Warning (F2) | | | |
| **4440 Resistance measurement input, oil pressure 8.1** | | | | | | | |
| 4441 | RMI oil 8.1 | Set point | 0.0<br>145.0 | 2.0 | | Designer's Reference Handbook | The multi-input 8 has been configured as 'RMI oil pressure'.<br>Oil pressure set point can be in Bar or PSI, dependent on the unit selection (menu 10970). |
| 4442 | RMI oil 8.1 | Timer | 0.0 s<br>999.0 s | 5.0 s | | | |
| 4443 | RMI oil 8.1 | Relay output A | Not used<br>Option-dep. | Not used | | | |
| 4444 | RMI oil 8.1 | Relay output B | Not used<br>Option-dep. | Not used | | | |
| 4445 | RMI oil 8.1 | Enable | OFF<br>ON | OFF | | | |
| 4446 | RMI oil 8.1 | Fail class | F1…F8 | Warning (F2) | | | |

| No. | Setting | | Min.<br>Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|---|
| **4450 Resistance measurement input, oil pressure 8.2** | | | | | | | |
| 4451 | RMI oil 8.2 | Set point | 0.0<br>145.0 | 1.0 | | Designer's Reference Handbook | The multi-input 8 has been configured as 'RMI oil pressure'.<br>Oil pressure set point can be in Bar or PSI, dependent on the unit selection (menu 10970). |
| 4452 | RMI oil 8.2 | Timer | 0.0 s<br>999.0 s | 5.0 s | | | |
| 4453 | RMI oil 8.2 | Relay output A | Not used<br>Option-dep. | Not used | | | |
| 4454 | RMI oil 8.2 | Relay output B | Not used<br>Option-dep. | Not used | | | |
| 4455 | RMI oil 8.2 | Enable | OFF<br>ON | OFF | | | |
| 4456 | RMI oil 8.2 | Fail class | F1…F8 | Shut-down (F5) | | | |
| **4460 Resistance measurement input, water temperature 8.1** | | | | | | | |
| 4461 | RMI water 8.1 | Set point | -49<br>482 | 100 | | Designer's Reference Handbook | The multi-input 8 has been configured as 'RMI water temperature'.<br>Water temperature set point can be in deg. C or F, dependent on the unit selection (menu 10970). |
| 4462 | RMI water 8.1 | Timer | 0.0 s<br>999.0 s | 5.0 s | | | |
| 4463 | RMI water 8.1 | Relay output A | Not used<br>Option-dep. | Not used | | | |
| 4464 | RMI water 8.1 | Relay output B | Not used<br>Option-dep. | Not used | | | |
| 4465 | RMI water 8.1 | Enable | OFF<br>ON | OFF | | | |
| 4466 | RMI water 8.1 | Fail class | F1…F8 | Warning (F2) | | | |
| **4470 Resistance measurement input, water temperature 8.2** | | | | | | | |
| 4471 | RMI water 8.2 | Set point | -49<br>482 | 110 | | Designer's Reference Handbook | The multi-input 8 has been configured as 'RMI water temperature'.<br>Water temperature set point can be in deg. C or F, dependent on the unit selection (menu 10970). |
| 4472 | RMI water 8.2 | Timer | 0.0 s<br>999.0 s | 5.0 s | | | |

| No. | Setting | | Min. Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|---|
| 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 | Trip + Stop (F4) | | | |
| **4480 Resistance measurement input, fuel level 8.1** | | | | | | | |
| 4481 | RMI fuel 8.1 | Set point | 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 Resistance measurement input, fuel level 8.2** | | | | | | | |
| 4491 | RMI fuel 8.2 | Set point | 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 | | | |
| 4495 | RMI fuel 8.2 | Enable | OFF ON | OFF | | | |
| 4496 | RMI fuel 8.2 | Fail class | F1…F8 | Warning (F2) | | | |

| No. | Setting | | Min. Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|---|
| **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 set point 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 | Warn-ing (F2) | | | |
| **4520 Overspeed 2** | | | | | | | |
| 4521 | Over-speed 2 | Set point | 100.0 % 150.0 % | 120.0 % | | Designer's Reference Handbook | The set point 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 | Shut-down (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 pri-mary 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 | | | |

| No. | Setting | | Min. Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|---|
| 4533 | Crank failure | Relay output A | Not used Option-dep. | Not used | | | |
| 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 | Warn-ing (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 | OFF ON | ON | | | |
| 4545 | Run feedb. fail | Fail class | F1...F8 | Warn-ing (F2) | | | |
| **4560 Hz/voltage failure** | | | | | | | |
| 4561 | Hz/V fail-ure | 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 has expired. Limits are placed in menu 2110 (Sync. blackout). |
| 4562 | Hz/V fail-ure | Relay output A | Not used Option-dep. | Not used | | | |
| 4563 | Hz/V fail-ure | Relay output B | Not used Option-dep. | Not used | | | |
| 4564 | Hz/V fail-ure | Enable | OFF ON | ON | | | |
| 4565 | Hz/V fail-ure | Fail class | F1...F8 | Shut-down (F5) | | | |
| **4570 Start failure** | | | | | | | |

| No. | Setting | | Min. Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|---|
| 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 | Set point | 50.0 % 100.0 % | 90.0 % | | Designer's Reference Handbook | The set point 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.<br>Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|---|
| **4600 Delta ana 1/2/3 Inp** | | | | | | | |
| 4601 | Delta ana1 InpA | Set point | Multi-input 6<br>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 | Set point | Multi-input 6<br>EIC | Multi-input 6 | | | |
| 4603 | Delta ana2 InpA | Set point | Multi-input 6<br>EIC | Multi-input 6 | | | |
| 4604 | Delta ana2 InpB | Set point | Multi-input 6<br>EIC | Multi-input 6 | | | |
| 4605 | Delta ana3 InpA | Set point | Multi-input 6<br>EIC | Multi-input 6 | | | |
| 4606 | Delta ana3 InpB | Set point | Multi-input 6<br>EIC | Multi-input 6 | | | |
| **4610 Delta ana1 1** | | | | | | | |
| 4611 | Delta ana1 1 | Set point | -9999<br>9999 | 10 | | Designer's Reference Handbook | Delta analogue alarm setting 1.1 |
| 4612 | Delta ana1 1 | Timer | 0.0 s<br>999.0 s | 5.0 s | | | |
| 4613 | Delta ana1 1 | Relay output A | Not used<br>Option-dep. | Not used | | | |
| 4614 | Delta ana1 1 | Relay output B | Not used<br>Option-dep. | Not used | | | |
| 4615 | Delta ana1 1 | Enable | OFF<br>ON | OFF | | | |
| 4616 | Delta ana1 1 | Fail class | F1…F8 | Warning (F2) | | | |
| **4620 Delta ana1 2** | | | | | | | |
| 4621 | Delta ana1 2 | Set point | -9999<br>9999 | 10 | | Designer's Reference Handbook | Delta analogue alarm setting 1.2 |
| 4622 | Delta ana1 2 | Timer | 0.0 s<br>999.0 s | 5.0 s | | | |
| 4623 | Delta ana1 2 | Relay output A | Not used<br>Option-dep. | Not used | | | |

| No. | Setting | | Min.<br>Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|---|
| 4624 | Delta ana1 2 | Relay output B | Not used<br>Option-dep. | Not used | | | |
| 4625 | Delta ana1 2 | Enable | OFF<br>ON | OFF | | | |
| 4626 | Delta ana1 2 | Fail class | F1…F8 | Warning (F2) | | | |
| **4630 Delta ana2 1** | | | | | | | |
| 4631 | Delta ana2 1 | Set point | -9999<br>9999 | 10 | | Designer's Reference Handbook | Delta analogue alarm setting 2.1 |
| 4632 | Delta ana2 1 | Timer | 0.0 s<br>999.0 s | 5.0 s | | | |
| 4633 | Delta ana2 1 | Relay output A | Not used<br>Option-dep. | Not used | | | |
| 4634 | Delta ana2 1 | Relay output B | Not used<br>Option-dep. | Not used | | | |
| 4635 | Delta ana2 1 | Enable | OFF<br>ON | OFF | | | |
| 4636 | Delta ana2 1 | Fail class | F1…F8 | Warning (F2) | | | |
| **4640 Delta ana2 2** | | | | | | | |
| 4641 | Delta ana2 2 | Set point | -9999<br>999 | 10 | | Designer's Reference Handbook | Delta analogue alarm setting 2.2 |
| 4642 | Delta ana2 2 | Timer | 0.0 s<br>999.0 s | 5.0 s | | | |
| 4643 | Delta ana2 2 | Relay output A | Not used<br>Option-dep. | Not used | | | |
| 4644 | Delta ana2 2 | Relay output B | Not used<br>Option-dep. | Not used | | | |
| 4645 | Delta ana2 2 | Enable | OFF<br>ON | OFF | | | |
| 4646 | Delta ana2 2 | Fail class | F1...F8 | Warning (F2) | | | |
| **4650 Delta ana3 1** | | | | | | | |
| 4651 | Delta ana3 1 | Set point | -9999<br>9999 | 10 | | Designer's Reference Handbook | Delta analogue alarm setting 3.1 |
| 4652 | Delta ana3 1 | Timer | 0.0 s<br>999.0 s | 5.0 s | | | |
| 4653 | Delta ana3 1 | Relay output A | Not used<br>Option-dep. | Not used | | | |
| 4654 | Delta ana3 1 | Relay output B | Not used<br>Option-dep. | Not used | | | |

| No. | Setting | | Min.<br>Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|---|
| 4655 | Delta ana3 1 | Enable | OFF<br>ON | OFF | | | |
| 4656 | Delta ana3 1 | Fail class | F1...F8 | Warning (F2) | | | |
| **4660 Delta ana3 2** | | | | | | | |
| 4661 | Delta ana3 2 | Set point | -9999<br>9999 | 10 | | Designer's Reference Handbook | Delta analogue alarm setting 3.2 |
| 4662 | Delta ana3 2 | Timer | 0.0 s<br>999.0 s | 5.0 s | | | |
| 4663 | Delta ana3 2 | Relay output A | Not used<br>Option-dep. | Not used | | | |
| 4664 | Delta ana3 2 | Relay output B | Not used<br>Option-dep. | Not used | | | |
| 4665 | Delta ana3 2 | Enable | OFF<br>ON | OFF | | | |
| 4666 | Delta ana3 2 | Fail class | F1...F8 | Warning (F2) | | | |

## 2.5.6 Aux. supply setup

| No. | Setting | | Min. Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|---|
| **4960 U< auxiliary power supply terminal 1** | | | | | | | |
| 4961 | U< aux. term. 1 | Set point | 8.0 $V_{dc}$ 32.0 $V_{dc}$ | 18.0 $V_{dc}$ | | Designer's Reference Handbook | The power supply on terminal 1 and 2 has been continuously below the adjusted set point during the programmed delay. |
| 4962 | U< aux. term. 1 | Timer | 10.0 s 999.0 s | 10.0 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 | Set point | 12.0 $V_{dc}$ 36.0 $V_{dc}$ | 30.0 $V_{dc}$ | | Designer's Reference Handbook | The power supply on terminal 1 and 2 has been continuously above the adjusted set point during the programmed delay. |
| 4972 | U> aux. term. 1 | Timer | 10.0 s 999.0 s | 10.0 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) | | | |

## 2.5.7 Multi-input no. 58

**The available menus for multi-input no. 58 depend on the input type configured in the PC utility software (menu 11300).**

| No. | Setting | | Min. Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|---|
| **4740 Digital input 58** | | | | | | | |
| 4741 | Dig. input 58 | Enable | OFF ON | OFF | | Designer's Reference Handbook | The input is configurable and can have different functions in different units. The multi-input 58 has been configured as 'Binary'. |
| 4742 | Dig. input 58 | Timer | 0.0 s 999.0 s | 10.0 s | | | |
| 4743 | Dig. input 58 | Relay output A | Not used Option-dep. | Not used | | | |
| 4744 | Dig. input 58 | Relay output B | Not used Option-dep. | Not used | | | |
| 4745 | Dig. input 58 | Enable | OFF ON | OFF | | | |
| 4746 | Dig. input 58 | Fail class | F1…F8 | Warning (F2) | | | |
| **4740 4-20 mA 58.1** | | | | | | | |
| 4741 | 4-20 mA 58.1 | Set point | 4 mA 20 mA | 10 mA | | Designer's Reference Handbook | The multi-input 58 has been configured as '4-20 mA'. |
| 4742 | 4-20 mA 58.1 | Timer | 0.0 s 999.0 s | 120.0 s | | | |
| 4743 | 4-20 mA 58.1 | Relay output A | Not used Option-dep. | Not used | | | |
| 4744 | 4-20 mA 58.1 | Relay output B | Not used Option-dep. | Not used | | | |
| 4745 | 4-20 mA 58.1 | Enable | OFF ON | OFF | | | |
| 4746 | 4-20 mA 58.1 | Fail class | F1…F8 | Warning (F2) | | | |
| **4750 4-20 mA 58.2** | | | | | | | |

| No. | Setting | | Min. Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|---|
| 4751 | 4-20 mA 58.2 | Set point | 4 mA 20 mA | 10 mA | | Designer's Reference Handbook | The multi-input 58 has been configured as '4-20 mA'. |
| 4752 | 4-20 mA 58.2 | Timer | 0.0 s 999.0 s | 120.0 s | | | |
| 4753 | 4-20 mA 58.2 | Relay output A | Not used Option-dep. | Not used | | | |
| 4754 | 4-20 mA 58.2 | Relay output B | Not used Option-dep. | Not used | | | |
| 4755 | 4-20 mA 58.2 | Enable | OFF ON | OFF | | | |
| 4756 | 4-20 mA 58.2 | Fail class | F1…F8 | Warning (F2) | | | |
| **4740 Pt100/Pt1000 58.1** | | | | | | | |
| 4741 | PT 58.1 | Set point | -49 482 | 80 | | Designer's Reference Handbook | The multi-input 58 has been configured as 'Pt100' or 'Pt1000'. Pt100/Pt1000 set point can be in deg. C or F, dependent on the unit selection (menu 10970). |
| 4742 | PT 58.1 | Timer | 0.0 s 999.0 s | 5.0 s | | | |
| 4743 | PT 58.1 | Relay output A | Not used Option-dep. | Not used | | | |
| 4744 | PT 58.1 | Relay output B | Not used Option-dep. | Not used | | | |
| 4745 | PT 58.1 | Enable | OFF ON | OFF | | | |
| 4746 | PT 58.1 | Fail class | F1…F8 | Warning (F2) | | | |
| **4750 Pt100/Pt1000 58.2** | | | | | | | |
| 4751 | PT 58.2 | Set point | -49 482 | 80 | | Designer's Reference Handbook | The multi-input 58 has been configured as 'Pt100' or 'Pt1000'. Pt100/Pt1000 set point can be in deg. C or F, dependent on the unit selection (menu 10970). |
| 4752 | PT 58.2 | Timer | 0.0 s 999.0 s | 10.0 s | | | |
| 4753 | PT 58.2 | Relay output A | Not used Option-dep. | Not used | | | |

| No. | Setting | | Min. Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|---|
| 4754 | PT 58.2 | Relay output B | Not used Option-dep. | Not used | | | |
| 4755 | PT 58.2 | Enable | OFF ON | OFF | | | |
| 4756 | PT 58.2 | Fail class | F1...F8 | Warning (F2) | | | |
| **4740 Resistance measurement input, oil pressure 58.1** | | | | | | | |
| 4741 | RMI oil 58.1 | Set point | 0.0 145.0 | 2.0 | | Designer's Reference Handbook | The multi-input 58 has been configured as 'RMI oil pressure'. Oil pressure set point can be in Bar or PSI, dependent on the unit selection (menu 10970). |
| 4742 | RMI oil 58.1 | Timer | 0.0 s 999.0 s | 5.0 s | | | |
| 4743 | RMI oil 58.1 | Relay output A | Not used Option-dep. | Not used | | | |
| 4744 | RMI oil 58.1 | Relay output B | Not used Option-dep. | Not used | | | |
| 4745 | RMI oil 58.1 | Enable | OFF ON | OFF | | | |
| 4746 | RMI oil 58.1 | Fail class | F1…F8 | Warning (F2) | | | |
| **4750 Resistance measurement input, oil pressure 58.2** | | | | | | | |
| 4751 | RMI oil 58.2 | Set point | 0.0 145.0 | 1.0 | | Designer's Reference Handbook | The multi-input 58 has been configured as 'RMI oil pressure'. Oil pressure set point can be in Bar or PSI, dependent on the unit selection (menu 10970). |
| 4752 | RMI oil 58.2 | Timer | 0.0 s 999.0 s | 5.0 s | | | |
| 4753 | RMI oil 58.2 | Relay output A | Not used Option-dep. | Not used | | | |
| 4754 | RMI oil 58.2 | Relay output B | Not used Option-dep. | Not used | | | |
| 4755 | RMI oil 58.2 | Enable | OFF ON | OFF | | | |
| 4756 | RMI oil 58.2 | Fail class | F1…F8 | Shut-down (F5) | | | |
| **4740 Resistance measurement input, water temperature 58.1** | | | | | | | |
| 4741 | RMI water 58.1 | Set point | -49 482 | 100 | | Designer's Reference Handbook | The multi-input 58 has been configured as 'RMI water temperature'. |

| No. | Setting | | Min. Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|---|
| 4742 | RMI water 58.1 | Timer | 0.0 s 999.0 s | 5.0 s | | | Water temperature set point can be in deg. C or F, dependent on the unit selection (menu 10970). |
| 4743 | RMI water 58.1 | Relay output A | Not used Option-dep. | Not used | | | |
| 4744 | RMI water 58.1 | Relay output B | Not used Option-dep. | Not used | | | |
| 4745 | RMI water 58.1 | Enable | OFF ON | OFF | | | |
| 4746 | RMI water 58.1 | Fail class | F1…F8 | Warning (F2) | | | |
| **4750 Resistance measurement input, water temperature 58.2** | | | | | | | |
| 4751 | RMI water 58.2 | Set point | -49 482 | 110 | | Designer's Reference Handbook | The multi-input 58 has been configured as 'RMI water temperature'. Water temperature set point can be in deg. C or F, dependent on the unit selection (menu 10970). |
| 4752 | RMI water 58.2 | Timer | 0.0 s 999.0 s | 5.0 s | | | |
| 4753 | RMI water 58.2 | Relay output A | Not used Option-dep. | Not used | | | |
| 4754 | RMI water 58.2 | Relay output B | Not used Option-dep. | Not used | | | |
| 4755 | RMI water 58.2 | Enable | OFF ON | OFF | | | |
| 4756 | RMI water 58.2 | Fail class | F1…F8 | Trip + Stop (F4) | | | |
| **4740 Resistance measurement input, fuel level 58.1** | | | | | | | |
| 4741 | RMI fuel 58.1 | Set point | 0 % 100 % | 10 % | | Designer's Reference Handbook | The multi-input 58 has been configured as 'RMI fuel level'. |
| 4742 | RMI fuel 58.1 | Timer | 0.0 s 999.0 s | 10.0 s | | | |

| No. | Setting | | Min. Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|---|
| 4743 | RMI fuel 58.1 | Relay output A | Not used Option-dep. | Not used | | | |
| 4744 | RMI fuel 58.1 | Relay output B | Not used Option-dep. | Not used | | | |
| 4745 | RMI fuel 58.1 | Enable | OFF ON | OFF | | | |
| 4746 | RMI fuel 58.1 | Fail class | F1…F8 | Warning (F2) | | | |
| **4750 Resistance measurement input, fuel level 58.2** | | | | | | | |
| 4751 | RMI fuel 58.2 | Set point | 0 % 100 % | 5 % | | Designer's Reference Handbook | The multi-input 58 has been configured as 'RMI fuel level'. |
| 4752 | RMI fuel 58.2 | Timer | 0.0 s 999.0 s | 10.0 s | | | |
| 4753 | RMI fuel 58.2 | Relay output A | Not used Option-dep. | Not used | | | |
| 4754 | RMI fuel 58.2 | Relay output B | Not used Option-dep. | Not used | | | |
| 4755 | RMI fuel 58.2 | Enable | OFF ON | OFF | | | |
| 4756 | RMI fuel 58.2 | Fail class | F1…F8 | Warning (F2) | | | |
| **4760 Wire fail 58** | | | | | | | |
| 4761 | W. fail 58 | Relay output A | Not used Option-dep. | Not used | | Designer's Reference Handbook | The wire break fault detection is activated. |
| 4762 | W. fail 58 | Relay output B | Not used Option-dep. | Not used | | | |
| 4763 | W. fail 58 | Enable | OFF ON | OFF | | | |
| 4764 | W. fail 58 | Fail class | F1…F8 | Warning (F2) | | | |

## 2.5.8 Multi-input no. 59

**The available menus for multi-input no. 59 depend on the input type configured in the PC utility software (menu 11310).**

| No. | Setting | | Min. Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|---|
| **4770 Digital input 59** | | | | | | | |
| 4771 | Dig. input 59 | Enable | OFF ON | OFF | | Designer's Reference Handbook | The input is configurable and can have different functions in different units. The multi-input 59 has been configured as 'Binary'. |
| 4772 | Dig. input 59 | Timer | 0.0 s 999.0 s | 10.0 s | | | |
| 4773 | Dig. input 59 | Relay output A | Not used Option-dep. | Not used | | | |
| 4774 | Dig. input 59 | Relay output B | Not used Option-dep. | Not used | | | |
| 4775 | Dig. input 59 | Enable | OFF ON | OFF | | | |
| 4776 | Dig. input 59 | Fail class | F1…F8 | Warning (F2) | | | |
| **4770 4-20 mA 59.1** | | | | | | | |
| 4771 | 4-20 mA 59.1 | Set point | 4 mA 20 mA | 10 mA | | Designer's Reference Handbook | The multi-input 59 has been configured as '4-20 mA'. |
| 4772 | 4-20 mA 59.1 | Timer | 0.0 s 999.0 s | 120.0 s | | | |
| 4773 | 4-20 mA 59.1 | Relay output A | Not used Option-dep. | Not used | | | |
| 4774 | 4-20 mA 59.1 | Relay output B | Not used Option-dep. | Not used | | | |
| 4775 | 4-20 mA 59.1 | Enable | OFF ON | OFF | | | |
| 4776 | 4-20 mA 59.1 | Fail class | F1…F8 | Warning (F2) | | | |
| **4780 4-20 mA 59.2** | | | | | | | |

| No. | Setting | | Min. Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|---|
| 4781 | 4-20 mA 59.2 | Set point | 4 mA 20 mA | 10 mA | | Designer's Reference Handbook | The multi-input 59 has been configured as '4-20 mA'. |
| 4782 | 4-20 mA 59.2 | Timer | 0.0 s 999.0 s | 120.0 s | | | |
| 4783 | 4-20 mA 59.2 | Relay output A | Not used Option-dep. | Not used | | | |
| 4784 | 4-20 mA 59.2 | Relay output B | Not used Option-dep. | Not used | | | |
| 4785 | 4-20 mA 59.2 | Enable | OFF ON | OFF | | | |
| 4786 | 4-20 mA 59.2 | Fail class | F1…F8 | Warning (F2) | | | |
| **4770 Pt100/Pt1000 59.1** | | | | | | | |
| 4771 | PT 59.1 | Set point | -49 482 | 80 | | Designer's Reference Handbook | The multi-input 59 has been configured as 'Pt100' or 'Pt1000'. Pt100/Pt1000 set point can be in deg. C or F, dependent on the unit selection (menu 10970). |
| 4772 | PT 59.1 | Timer | 0.0 s 999.0 s | 5.0 s | | | |
| 4773 | PT 59.1 | Relay output A | Not used Option-dep. | Not used | | | |
| 4774 | PT 59.1 | Relay output B | Not used Option-dep. | Not used | | | |
| 4775 | PT 59.1 | Enable | OFF ON | OFF | | | |
| 4776 | PT 59.1 | Fail class | F1…F8 | Warning (F2) | | | |
| **4780 Pt100/Pt1000 59.2** | | | | | | | |
| 4781 | PT 59.2 | Set point | -49 482 | 80 | | Designer's Reference Handbook | The multi-input 59 has been configured as 'Pt100' or 'Pt1000'. Pt100/Pt1000 set point can be in deg. C or F, dependent on the unit selection (menu 10970). |
| 4782 | PT 59.2 | Timer | 0.0 s 999.0 s | 10.0 s | | | |
| 4783 | PT 59.2 | Relay output A | Not used Option-dep. | Not used | | | |

| No. | Setting | | Min. Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|---|
| 4784 | PT 59.2 | Relay output B | Not used Option-dep. | Not used | | | |
| 4785 | PT 59.2 | Enable | OFF ON | OFF | | | |
| 4786 | PT 59.2 | Fail class | F1...F8 | Warning (F2) | | | |
| **4770 Resistance measurement input, oil pressure 59.1** | | | | | | | |
| 4771 | RMI oil 59.1 | Set point | 0.0 145.0 | 2.0 | | Designer's Reference Handbook | The multi-input 59 has been configured as 'RMI oil pressure'. Oil pressure set point can be in Bar or PSI, dependent on the unit selection (menu 10970). |
| 4772 | RMI oil 59.1 | Timer | 0.0 s 999.0 s | 5.0 s | | | |
| 4773 | RMI oil 59.1 | Relay output A | Not used Option-dep. | Not used | | | |
| 4774 | RMI oil 59.1 | Relay output B | Not used Option-dep. | Not used | | | |
| 4775 | RMI oil 59.1 | Enable | OFF ON | OFF | | | |
| 4776 | RMI oil 59.1 | Fail class | F1…F8 | Warning (F2) | | | |
| **4780 Resistance measurement input, oil pressure 59.2** | | | | | | | |
| 4781 | RMI oil 59.2 | Set point | 0.0 145.0 | 1.0 | | Designer's Reference Handbook | The multi-input 59 has been configured as 'RMI oil pressure'. Oil pressure set point can be in Bar or PSI, dependent on the unit selection (menu 10970). |
| 4782 | RMI oil 59.2 | Timer | 0.0 s 999.0 s | 5.0 s | | | |
| 4783 | RMI oil 59.2 | Relay output A | Not used Option-dep. | Not used | | | |
| 4784 | RMI oil 59.2 | Relay output B | Not used Option-dep. | Not used | | | |
| 4785 | RMI oil 59.2 | Enable | OFF ON | OFF | | | |
| 4786 | RMI oil 59.2 | Fail class | F1…F8 | Shut-down (F5) | | | |
| **4770 Resistance measurement input, water temperature 59.1** | | | | | | | |
| 4771 | RMI water 59.1 | Set point | -49 482 | 100 | | Designer's Reference Handbook | The multi-input 59 has been configured as 'RMI water temperature'. |

| No. | Setting | | Min. Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|---|
| 4772 | RMI water 59.1 | Timer | 0.0 s<br>999.0 s | 5.0 s | | | Water temperature set point can be in deg. C or F, dependent on the unit selection (menu 10970). |
| 4773 | RMI water 59.1 | Relay output A | Not used<br>Option-dep. | Not used | | | |
| 4774 | RMI water 59.1 | Relay output B | Not used<br>Option-dep. | Not used | | | |
| 4775 | RMI water 59.1 | Enable | OFF<br>ON | OFF | | | |
| 4776 | RMI water 59.1 | Fail class | F1…F8 | Warning (F2) | | | |
| **4780 Resistance measurement input, water temperature 59.2** | | | | | | | |
| 4781 | RMI water 59.2 | Set point | -49<br>482 | 110 | | Designer's Reference Handbook | The multi-input 59 has been configured as 'RMI water temperature'.<br>Water temperature set point can be in deg. C or F, dependent on the unit selection (menu 10970). |
| 4782 | RMI water 59.2 | Timer | 0.0 s<br>999.0 s | 5.0 s | | | |
| 4783 | RMI water 59.2 | Relay output A | Not used<br>Option-dep. | Not used | | | |
| 4784 | RMI water 59.2 | Relay output B | Not used<br>Option-dep. | Not used | | | |
| 4785 | RMI water 59.2 | Enable | OFF<br>ON | OFF | | | |
| 4786 | RMI water 59.2 | Fail class | F1…F8 | Trip + Stop (F4) | | | |
| **4770 Resistance measurement input, fuel level 59.1** | | | | | | | |
| 4771 | RMI fuel 59.1 | Set point | 0 %<br>100 % | 10 % | | Designer's Reference Handbook | The multi-input 59 has been configured as 'RMI fuel level'. |
| 4772 | RMI fuel 59.1 | Timer | 0.0 s<br>999.0 s | 10.0 s | | | |

| No. | Setting | | Min. Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|---|
| 4773 | RMI fuel 59.1 | Relay output A | Not used Option-dep. | Not used | | | |
| 4774 | RMI fuel 59.1 | Relay output B | Not used Option-dep. | Not used | | | |
| 4775 | RMI fuel 59.1 | Enable | OFF ON | OFF | | | |
| 4776 | RMI fuel 59.1 | Fail class | F1…F8 | Warning (F2) | | | |
| **4780 Resistance measurement input, fuel level 59.2** | | | | | | | |
| 4781 | RMI fuel 59.2 | Set point | 0 % 100 % | 5 % | | Designer's Reference Handbook | The multi-input 59 has been configured as 'RMI fuel level'. |
| 4782 | RMI fuel 59.2 | Timer | 0.0 s 999.0 s | 10.0 s | | | |
| 4783 | RMI fuel 59.2 | Relay output A | Not used Option-dep. | Not used | | | |
| 4784 | RMI fuel 59.2 | Relay output B | Not used Option-dep. | Not used | | | |
| 4785 | RMI fuel 59.2 | Enable | OFF ON | OFF | | | |
| 4786 | RMI fuel 59.2 | Fail class | F1…F8 | Warning (F2) | | | |
| **4790 Wire fail 59** | | | | | | | |
| 4791 | W. fail 59 | Relay output A | Not used Option-dep. | Not used | | Designer's Reference Handbook | The wire break fault detection is activated. |
| 4792 | W. fail 59 | Relay output B | Not used Option-dep. | Not used | | | |
| 4793 | W. fail 59 | Enable | OFF ON | OFF | | | |
| 4794 | W. fail 59 | Fail class | F1…F8 | Warning (F2) | | | |

# 2.6 System parameters, general setup

## 2.6.1 Engine heater failure

| No. | Setting | | Min.<br>Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|---|
| **6330 Engine heater 1** | | | | | | | |
| 6331 | Engine heater 1 | Set point | 10 deg<br>250 deg | 30 deg | | Designer's Reference Handbook | |
| 6332 | Engine heater 1 | Timer | 1.0 s<br>300.0 s | 10.0 s | | | |
| 6333 | Engine heater 1 | Relay output A | Not used<br>Option-dep. | Not used | | | |
| 6334 | Engine heater 1 | Relay output B | Not used<br>Option-dep. | Not used | | | |
| 6335 | Engine heater 1 | Enable | OFF<br>ON | OFF | | | |
| 6336 | Engine heater 1 | Fail class | F1…F8 | Warning (F2) | | | |

## 2.6.2 Max. ventilation

| No. | Setting | | Min. Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|---|
| **6470 Max vent 1** | | | | | | | |
| 6471 | Max vent 1 | Set point | 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 | Set point | 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 | Shut-down (F5) | | | |

## 2.6.3 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.<br>Parameter 6502:<br>OFF: Only AMF start is affected.<br>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 (F5) | | | |

## 2.6.4 Switchboard error - Not in auto

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

## 2.6.5 Avg U BB

| No. | Setting | | Min.<br>Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|---|
| **7480 Avg U BB> 1** | | | | | | | |
| 7481 | Avg U BB> 1 | Set point | 100.0 %<br>120.0 % | 110.0 % | | | |
| 7482 | Avg U BB> 1 | Timer | 0.1 s<br>3200.0 s | 10.0 s | | | |
| 7483 | Avg U BB> 1 | Relay output A | Not used<br>Option-dep. | Not used | | | |
| 7484 | Avg U BB> 1 | Enable | OFF<br>ON | OFF | | | |
| 7485 | Avg U BB> 1 | Fail class | F1...F8 | Warning<br>(F2) | | | |
| 7486 | Avg U BB> 1 | AVG timer | 30.0 s<br>900.0 s | 600.0 s | | | |
| **7490 Avg U BB> 2** | | | | | | | |
| 7491 | Avg U BB> 2 | Set point | 100.0 %<br>120.0 % | 110.0 % | | | |
| 7492 | Avg U BB> 2 | Timer | 0.1 s<br>3200.0 s | 10.0 s | | | |
| 7493 | Avg U BB> 2 | Relay output A | Not used<br>Option-dep. | Not used | | | |
| 7494 | Avg U BB> 2 | Enable | OFF<br>ON | OFF | | | |
| 7495 | Avg U BB> 2 | Fail class | F1...F8 | Warning<br>(F2) | | | |
| 7496 | Avg U BB> 2 | AVG timer | 30.0 s<br>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) | | | |

## 2.7.2 Engine interface communication alarms

| No. | Setting | | Min.<br>Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|---|
| **7570 EI comm. error** | | | | | | | |
| 7571 | EI comm. error | Timer | 0.0 s<br>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<br>Option-dep. | Not used | | | |
| 7573 | EI comm. error | Relay output B | Not used<br>Option-dep. | Not used | | | |
| 7574 | EI comm. error | Enable | OFF<br>ON | OFF | | | |
| 7575 | EI comm. error | Fail class | F1…F8 | Warning (F2) | | | |
| **7580 EIC warning** | | | | | | | |
| 7581 | EIC warning | Timer | 0.0 s<br>100.0 s | 0.0 s | | Option: H5 | |
| 7582 | EIC warning | Relay output A | Not used<br>Option-dep. | Not used | | | |
| 7583 | EIC warning | Relay output B | Not used<br>Option-dep. | Not used | | | |
| 7584 | EIC warning | Enable | OFF<br>ON | OFF | | | |
| 7585 | EIC warning | Fail class | F1…F8 | Warning (F2) | | | |
| **7590 EIC shutdown** | | | | | | | |
| 7591 | EIC shutdown | Timer | 0.0 s<br>100.0 s | 0.0 s | | Option: H5 | |
| 7592 | EIC shutdown | Relay output A | Not used<br>Option-dep. | Not used | | | |
| 7593 | EIC shutdown | Relay output B | Not used<br>Option-dep. | Not used | | | |
| 7594 | EIC shutdown | Enable | OFF<br>ON | OFF | | | |
| 7595 | EIC shutdown | Fail class | F1…F8 | Shutdown (F5) | | | |
| **7600 EIC overspeed** | | | | | | | |
| 7601 | EIC overspeed | Set point | 100.0 %<br>150.0 % | 110.0 % | | Option: H5 | |
| 7602 | EIC overspeed | Timer | 0.0 s<br>100.0 s | 5.0 s | | | |

| No. | Setting | | Min.<br>Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|---|
| 7603 | EIC overspeed | Relay output A | Not used<br>Option-dep. | Not used | | | |
| 7604 | EIC overspeed | Relay output B | Not used<br>Option-dep. | Not used | | | |
| 7605 | EIC overspeed | Enable | OFF<br>ON | OFF | | | |
| 7606 | EIC overspeed | Fail class | F1…F8 | Warning (F2) | | | |
| **7610 EIC Coolant temp. 1** | | | | | | | |
| 7611 | EIC coolant t. 1 | Set point | -40 deg<br>410 deg | 100 deg | | Option: H5 | |
| 7612 | EIC coolant t. 1 | Timer | 0.0 s<br>100.0 s | 5.0 s | | | |
| 7613 | EIC coolant t. 1 | Relay output A | Not used<br>Option-dep. | Not used | | | |
| 7614 | EIC coolant t. 1 | Relay output B | Not used<br>Option-dep. | Not used | | | |
| 7615 | EIC coolant t. 1 | Enable | OFF<br>ON | OFF | | | |
| 7616 | EIC coolant t. 1 | Fail class | F1…F8 | Warning (F2) | | | |
| **7620 EIC Coolant temp. 2** | | | | | | | |
| 7621 | EIC coolant t. 2 | Set point | -40 deg<br>410 deg | 110 deg | | Option: H5 | |
| 7622 | EIC coolant t. 2 | Timer | 0.0 s<br>100.0 s | 5.0 s | | | |
| 7623 | EIC coolant t. 2 | Relay output A | Not used<br>Option-dep. | Not used | | | |
| 7624 | EIC coolant t. 2 | Relay output B | Not used<br>Option-dep. | Not used | | | |
| 7625 | EIC coolant t. 2 | Enable | OFF<br>ON | OFF | | | |
| 7626 | EIC coolant t. 2 | Fail class | F1…F8 | Warning (F2) | | | |
| **7630 EIC Oil pressure 1** | | | | | | | |
| 7631 | EIC oil press. 1 | Set point | 0.0 bar<br>145.0 bar | 2.0 bar | | Option: H5 | |
| 7632 | EIC oil press. 1 | Timer | 0.0 s<br>100.0 s | 5.0 s | | | |
| 7633 | EIC oil press. 1 | Relay output A | Not used<br>Option-dep. | Not used | | | |

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

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

# 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.<br>Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|---|
| **2770 EIC speed control** | | | | | | | |
| 2771 | Scania control | Droop | 0.0 %<br>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<br>1500 RPM<br>1800 RPM<br>Low idle | User | | | |
| 2773 | Cummins Gain | Kp | 0.00<br>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<br>Up/Down ECU<br>Up/Down CAN<br>Ana. ECU<br>Ana. ECU rel.<br>Frequency | Ana. CAN | | Option H5 | See description in option H5 manual. |
| 2792 | EIC speed dem. sw. | Local Emerg sw. | Ana. CAN<br>Up/Down ECU<br>Up/Down CAN<br>Ana. ECU<br>Ana. ECU rel.<br>Frequency | Ana. CAN | | | |
| 2793 | EIC speed dem. sw. | Remote norm sw. | Ana. CAN<br>Up/Down ECU<br>Up/Down CAN<br>Ana. ECU<br>Ana. ECU rel.<br>Frequency | Ana. CAN | | | |
| 2794 | EIC speed dem. sw. | Remote Emerg sw. | Ana. CAN<br>Up/Down ECU<br>Up/Down CAN<br>Ana. ECU<br>Ana. ECU rel.<br>Frequency | Ana. CAN | | | |

# 3.3 Control parameters, output setup

## 3.3.1 Digital output setup

| No. | Setting | | Min.<br>Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|---|
| **5000 Relay 03** | | | | | | | |
| 5001 | Relay 03 | Function | Alarm relay ND<br>Alarm relay NE | Horn relay | | Designer's Reference Handbook | Function selections:<br>- Alarm relay ND<br>- Limit relay<br>- Horn relay<br>- Alarm relay NE |
| 5002 | Relay 03 | OFF delay | 0.0 s<br>999.9 s | 5.0 s | | | |
| **5010 Relay 21** | | | | | | | |
| 5011 | Relay 21 | Function | Alarm relay ND<br>Alarm relay NE | Alarm relay ND | | Designer's Reference Handbook | Function selections:<br>- Alarm relay ND<br>- Limit relay<br>- Horn relay<br>- Alarm relay NE |
| 5012 | Relay 21 | OFF delay | 0.0 s<br>999.9 s | 5.0 s | | | |
| **5020 Relay 22** | | | | | | | |
| 5021 | Relay 22 | Function | Alarm relay ND<br>Alarm relay NE | Alarm relay ND | | Designer's Reference Handbook | Function selections:<br>- Alarm relay ND<br>- Limit relay<br>- Horn relay<br>- Alarm relay NE |
| 5022 | Relay 22 | OFF delay | 0.0 s<br>999.9 s | 5.0 s | | | |
| **5030 Relay 23** | | | | | | | |
| 5031 | Relay 23 | Function | Alarm relay ND<br>Alarm relay NE | Alarm relay ND | | Designer's Reference Handbook | Function selections:<br>- Alarm relay ND<br>- Limit relay<br>- Horn relay<br>- Alarm relay NE |
| 5032 | Relay 23 | OFF delay | 0.0 s<br>999.9 s | 5.0 s | | | |
| **5040 Relay 24** | | | | | | | |
| 5041 | Relay 24 | Function | Alarm relay ND<br>Alarm relay NE | Alarm relay ND | | Designer's Reference Handbook | Function selections:<br>- Alarm relay ND<br>- Limit relay<br>- Horn relay<br>- Alarm relay NE |
| 5042 | Relay 24 | OFF delay | 0.0 s<br>999.9 s | 5.0 s | | | |
| **5050 Relay 26** | | | | | | | |

| No. | Setting | | Min.<br>Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|---|
| 5051 | Relay 26 | Function | Alarm relay ND<br>Alarm relay NE | Alarm relay ND | | Designer's Reference Handbook | Function selections:<br>- Alarm relay ND<br>- Limit relay<br>- Horn relay<br>- Alarm relay NE |
| 5052 | Relay 26 | OFF delay | 0.0 s<br>999.9 s | 5.0 s | | | |
| **5060 Relay 45** | | | | | | | |
| 5061 | Relay 45 | Function | Alarm relay ND<br>Alarm relay NE | Alarm relay ND | | Designer's Reference Handbook | Function selections:<br>- Alarm relay ND<br>- Limit relay<br>- Horn relay<br>- Alarm relay NE |
| 5062 | Relay 45 | OFF delay | 0.0 s<br>999.9 s | 5.0 s | | | |
| **5070 Relay 47** | | | | | | | |
| 5071 | Relay 47 | Function | Alarm relay ND<br>Alarm relay NE | Alarm relay ND | | Designer's Reference Handbook | Function selections:<br>- Alarm relay ND<br>- Limit relay<br>- Horn relay<br>- Alarm relay NE |
| 5072 | Relay 47 | OFF delay | 0.0 s<br>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 1 | Frequency | 48.0 Hz<br>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. Scaling of power and voltage range is dependent on parameter 9030. |
| 6002 | Nom. settings 1 | Power | 10 kW<br>90.00 MW | 480 kW | | | |
| 6003 | Nom. settings 1 | Current | 0 A<br>9000 A | 867 A | | | |
| 6004 | Nom. settings 1 | Voltage | 100 V<br>75 kV | 400 V | | | |
| 6005 | Nom. settings 1 | RPM | 100 RPM<br>4000 RPM | 1500 RPM | | | |
| 6006 | Nom. settings 1 | Setting | 1<br>4 | 1 | | | |
| **6010 Nominal settings 2** | | | | | | | |
| 6011 | Nom. settings 2 | Frequency | 48.0 Hz<br>62.0 Hz | 50.0 Hz | | Designer's Reference Handbook | |
| 6012 | Nom. settings 2 | Power | 10 kW<br>90.00 MW | 230 kW | | | |
| 6013 | Nom. settings 2 | Current | 0 A<br>9000 A | 345 A | | | |
| 6014 | Nom. settings 2 | Voltage | 100 V<br>75 kV | 480 V | | | |
| 6015 | Nom. settings 2 | RPM | 100 RPM<br>4000 RPM | 1500 RPM | | | |
| **6020 Nominal settings 3** | | | | | | | |
| 6021 | Nom. settings 3 | Frequency | 48.0 Hz<br>62.0 Hz | 60.0 Hz | | Designer's Reference Handbook | |
| 6022 | Nom. settings 3 | Power | 10 kW<br>90.00 MW | 230 kW | | | |
| 6023 | Nom. settings 3 | Current | 0 A<br>9000 A | 345 A | | | |
| 6024 | Nom. settings 3 | Voltage | 100 V<br>75 kV | 480 V | | | |
| 6025 | Nom. settings 3 | RPM | 100 RPM<br>4000 RPM | 1800 RPM | | | |
| **6030 Nominal settings 4** | | | | | | | |

| No. | Setting | | Min. Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|---|
| 6031 | Nom. settings 4 | Frequency | 48.0 Hz<br>62.0 Hz | 60.0 Hz | | Designer's Reference Handbook | |
| 6032 | Nom. settings 4 | Power | 10 kW<br>90.00 kW | 230 kW | | | |
| 6033 | Nom. settings 4 | Current | 0 A<br>9000 A | 345 A | | | |
| 6034 | Nom. settings 4 | Voltage | 100 V<br>75 kV | 480 V | | | |
| 6035 | Nom. settings 4 | RPM | 100 RPM<br>4000 RPM | 1800 RPM | | | |
| **6040 G transformer** | | | | | | | |
| 6041 | G transformer | U primary | 100 V<br>75 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 transformer | U secondary | 100 V<br>480 V | 400 V | | | |
| 6043 | G transformer | I primary | 5 A<br>9000 A | 1000 A | | | |
| 6044 | G transformer | I secondary | 1 A<br>5 A | 1 A | | | |
| **6050 Busbar settings** | | | | | | | |
| 6051 | BB transformer | U primary | 100 V<br>75 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<br>480 V | 400 V | | | |
| 6053 | BB transformer | Nominal U 1 | 100 V<br>75 kV | 400 V | | | |
| 6054 | BB transformer | Bus nom. set | Param set 1<br>Param set 2 | Param set 1 | | | |
| **6060 Busbar settings 2** | | | | | | | |
| 6061 | BB transformer | U primary | 100 V<br>75 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<br>480 V | 400 V | | | |
| 6063 | BB transformer | Nominal U 2 | 100 V<br>75 kV | 400 V | | | |
| **6070 Genset mode** | | | | | | | |

| No. | Setting | | Min. Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|---|
| 6071 | Genset mode | | Island Load take-over | | | Designer's Reference Handbook | Selections are:<br>-Island<br>-Auto Mains Failure<br>-Load takeover |
| **6080 Language** | | | | | | | |
| 6081 | Language | | English Language 3 | English | | Designer's Reference Handbook | The master language is English. Additionally, 11 different languages can be configured with the PC utility software. Only 3 different languages can be written to the controller. |

## 3.5.2 Counters and timers

| No. | Setting | | Min. Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|---|
| **6100 Counters** | | | | | | | |
| 6101 | Counters | Run.H. *1 | 0 hrs 999 hrs | 0 hour | | Designer's Reference Handbook | Setting 6105 resets the kWh counter to 0. It automatically reverts to OFF after being set ON. |
| 6102 | Counters | Run.H. *1000 | 0 hrs 999 hrs | 0 hour | | | |
| 6103 | Counters | GB 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 | Hours timer | 0 hrs 9000 hrs | 500 hrs | | | |
| 6113 | Service timer 1 | Days timer | 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 | Hours timer | 0 hrs 9000 hrs | 500 hrs | | | |
| 6123 | Service timer 2 | Days timer | 1 days 1000 days | 365 days | | | |

| No. | Setting | | Min. Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|---|
| 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 | | | |
| **6170 Running feedback** | | | | | | | |
| 6171 | Running feedback | Teeth | 0 teeth 500 teeth | 0 teeth | | Designer's Reference Handbook | Available running detection types:<br>- Binary input<br>- MPU input<br>- Frequency<br>- EIC (engine communication)<br>- Multi-input 6<br>- Multi-input 7<br>- Multi-input 8<br><br>If menu 6171 is set to 0, the magnetic pickup (MPU) input is not active.<br>If menu 6175 is set to 0.0, the oil pressure running feedback is not active. |
| 6172 | Running feedback | Type | Binary input EIC | Frequency | | | |
| 6173 | Running feedback | Run detect | 0 RPM 4000 RPM | 1000 RPM | | | |
| 6174 | Running feedback | Remove starter | 1 RPM 2000 RPM | 400 RPM | | | |
| 6175 | Running feedback | Oil pressure | 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.<br>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 180.0 s | 5.0 s | | | |
| 6184 | Starter | Start OFF time | 1.0 s 99.0 s | 5.0 s | | | |

| No. | Setting | | Min. Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|---|
| 6185 | Starter | Type | Multi-input 6 Multi-input 8 | Multi-input 6 | | | |
| 6186 | Starter | Set point | 0.0 bar 300.0 bar | 0.0 bar | | | |
| **6190 Start attempts** | | | | | | | |
| 6191 | Start attempts | Set point | 1 10 | 3 | | Designer's Reference Handbook | Number of start attempts. |
| **6200 Shutdown override** | | | | | | | |
| 6201 | Shutdown override | Attempts | 1 10 | 7 | | Designer's Reference Handbook | Shutdown override turns all shutdowns into warnings. Only exception is overspeed and emergency stop. |
| 6202 | Shutdown override | Cooling down timer | 0 s 9900 s | 240 s | | | |
| 6203 | Shutdown override | Reset | OFF ON | OFF | | | |
| **6210 Stop** | | | | | | | |
| 6211 | Stop | Cooling down | 0 s 9900 s | 240 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 | 1.0 s 99.0 s | 5.0 s | | | |
| 6213 | Stop | TYPE | Multi-input 6 EIC | Multi-input 6 | | | |
| 6214 | Stop | Set point | 0 deg. 482 deg. | 0 deg. | | | |
| **6220 Hz/V OK** | | | | | | | |
| 6221 | HZ/V OK | Timer | 1.0 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 GB control** | | | | | | | |
| 6231 | GB control | Close delay | 0.0 s<br>30.0 s | 2.0 s | | Designer's Reference Handbook | Menu 6232 is for compact breakers (need to charge spring before closing). |
| 6232 | GB control | Load time | 0.0 s<br>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 min.<br>999.0 min. | 300.0 min. | | Designer's Reference Handbook | |
| 6292 | Idle start | Enable start | OFF<br>ON | OFF | | | |
| 6293 | Idle stop | Stop timer | 0.0 min.<br>999.0 min. | 300.0 min. | | | |
| 6294 | Idle stop | Enable stop | OFF<br>ON | OFF | | | |
| 6295 | Idle active | Relay output A | Not used<br>Option-dep. | Not used | | | |
| 6296 | Idle active | Idle running | OFF<br>ON | OFF | | | |

## 3.5.8 Engine heater

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

## 3.5.9 Cooling ventilation

| No. | Setting | | Min. Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|---|
| **6460 Max. ventilation** | | | | | | | |
| 6461 | Max. ventila-tion | Set point | 20 deg.<br>250 deg. | 90 deg. | | Designer's Ref-erence Hand-book | Ventilation fan control. |
| 6462 | Max. ventila-tion | Relay out-put A | Not used<br>Option-dep. | Not used | | | |
| 6463 | Max. ventila-tion | Hysteresis | 1 deg.<br>70 deg. | 5 deg. | | | |
| 6464 | Max. ventila-tion | Enable | OFF<br>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<br>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.<br>Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|---|
| **6550 Fuel pump logic** | | | | | | | |
| 6551 | Fuel pump logic | Pump start | 0 %<br>100 % | 20 % | | Designer's Reference Handbook | Type:<br>- Multi-input 6<br>- Multi-input 7<br>- Multi-input 8 |
| 6552 | Fuel pump logic | Pump stop | 0 %<br>100 % | 80 % | | | |
| 6553 | Fuel pump logic | Fill check time | 0.1 s<br>300.0 s | 60.0 s | | | |
| 6554 | Fuel pump logic | Relay output A | Not used<br>Option-dep. | Not used | | | |
| 6555 | Fuel pump logic | Set point | Multi-inp 6<br>Multi-inp 8 | Multi-inp 6 | | | |
| 6556 | Fuel pump logic | Fail class | F1…F8 | Warning (F2) | | | |

## 3.5.12 Alarm jump

| No. | Setting | | Min.<br>Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|---|
| **6900 Alarm jump** | | | | | | | |
| 6901 | Alarm jump | Enable | OFF<br>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). |

## 3.5.13 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.<br>Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|---|
| **6960 Command start/stop timer 1** | | | | | | | |
| 6961 | Start timer 1 days | Set point | MO<br>MO-TU-WE-TH-FR-SA-SU | OFF | | Designer's Reference Handbook | Selections are:<br>MO<br>TU<br>WE<br>TH<br>FR<br>SA<br>SU<br>MO-TU-WE-TH<br>MO-TU-WE-TH-FR SA-SU<br>MO-TU-WE-TH-FR-SA-SU |
| 6962 | Start timer 1 hour | Set point | 0<br>23 | 10 | | Designer's Reference Handbook | |
| 6963 | Start timer 1 min | Set point | 0<br>59 | 0 | | Designer's Reference Handbook | |
| 6964 | Stop timer 1 days | Set point | MO<br>MO-TU-WE-TH-FR-SA-SU | MO-TU-WE-TH-FR-SA-SU | | Designer's Reference Handbook | Selections are:<br>MO<br>TU<br>WE<br>TH<br>FR<br>SA<br>SU<br>MO-TU-WE-TH<br>MO-TU-WE-TH-FR SA-SU<br>MO-TU-WE-TH-FR-SA-SU |
| 6965 | Stop timer 1 hour | Set point | 0<br>23 | 10 | | Designer's Reference Handbook | |
| 6966 | Stop timer 1 min | Set point | 0<br>59 | 0 | | Designer's Reference Handbook | |

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

# 3.6 System parameters, mains setup

## 3.6.1 Test

| No. | Setting | | Min.<br>Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|---|
| **7040 Test running** | | | | | | | |
| 7042 | Test | Test time | 0.0 min.<br>999.0 min. | 5.0 min. | | Designer's Reference Handbook | Available test types:<br>- Simple (engine run only)<br>- Full (disconnects mains) |
| 7043 | Test | Return mode | Semi-auto mode<br>Auto mode | Auto mode | | | |
| 7044 | Test | Test type | Simple test<br>Full test | Simple test | | | |

## 3.6.2 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 | | | |
| 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. communi-cation | ID | 1 247 | 3 | | Option H2 | The mode ASCII is used for modem communication (ASCII: 7 data bit, RTU: 8 data bit). |
| 7512 | Ext. communi-cation | Mode | RTU ASCII | RTU | | Option H2 | |

# 3.8 System parameters, engine interface communication

## 3.8.1 Engine interface communication

| No. | Setting | | Min.<br>Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|---|
| **7560 Engine I/F** | | | | | | | |
| 7561 | Engine I/F | Engine type | OFF<br>DDEC<br>EMR<br>JDEC<br>Iveco<br>Perkins<br>Caterpillar<br>Volvo Penta<br>Volvo Penta EMS 2<br>Scania EMS<br>Scania EMS 2<br>MDEC 2000/4000 M. 302<br>MDEC 2000/4000 M. 303<br>MTU ADEC<br>Cummins<br>Generic J1939<br>MTU J1939<br>Smart Connect | OFF | | Option H5 | Please choose MDEC 2000/4000 M.303 when M.201 or M.304 is required.<br>Menu 7562 is only applicable when MTU ADEC is selected as engine type.<br>Menu 7563 is for enabling the EIC commands transmission.<br>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 displaying all the present engine com. values broadcasted on this CAN communication when this function is set to “ON”. |
| 7562 | CANopen ID | Node ID | 0<br>16 | 0 | | | |
| 7563 | EIC Controls | Enable | OFF<br>ON | ON | | | |
| 7564 | EIC Auto view | Enable | OFF<br>ON | OFF | | | |

# 3.9 System parameters, setup menu

## 3.9.1 Password config.

| No. | Setting | | Min. Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|---|
| **9110 Password** | | | | | | | |
| 9111 | User password | Setting | 0 32000 | 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 |
| 9112 | Service password | Setting | 0 32000 | 2001 | | | |
| 9113 | Master password | Setting | 0 32000 | 2002 | | | |

## 3.9.2 AC config.

This menu is used to choose the AC configuration.

| No. | Setting | | Description |
|---|---|---|---|
| **9130 AC configuration** | | | |
| 9130 | AC configuration | Setting | Selections:<br>● 3 phase L1L2L3<br>● 2 phase L1L3<br>● 2 phase L1L2<br>● 1 phase L1 |

| Phase angles: | Description |
|---|---|
| 3 phase L1L2L3 | 120 degrees with neutral. |
| 2 phase L1L3 | 180 degrees (split phase, neutral in the centre). |
| 2 phase L1L2 | 120 degrees with neutral. |
| 1 phase 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 level | | Sets the light intensity for the display. |
| 9152 | Contrast level | | Sets the contrast for the display. |

# 3.10 System parameters, RMI inputs

## 3.10.1 RMI 6

**RMI 6 settings are only accessible in the utility software.**

| No. | Setting | Min.<br>Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|
| **10460 RMI 6 type** | | | | | | |
| 10460 | RMI 6 type | Sensor type 1<br>Configurable RMI | Sensor type 1 | | Designer's Reference Handbook | Selections are:<br>-Sensor type 1<br>-Sensor type 2<br>-Sensor type 3<br>-Configurable RMI |
| **10470 RMI 6 input set point 1** | | | | | | |
| 10470 | RMI 6 inp. setp. 1 | 0 Ohm<br>2500 Ohm | 10 Ohm | | Designer's Reference Handbook | Configurable RMI curve. |
| **10480 RMI 6 output set point 1** | | | | | | |
| 10480 | RMI 6 outp. setp. 1 | -49<br>482 | 40 | | Designer's Reference Handbook | Configurable RMI curve. |
| **10490 RMI 6 input set point 2** | | | | | | |
| 10490 | RMI 6 inp. setp. 2 | 0 Ohm<br>2500 Ohm | 44.9 Ohm | | Designer's Reference Handbook | Configurable RMI curve. |
| **10500 RMI 6 output set point 2** | | | | | | |
| 10500 | RMI 6 outp. setp. 2 | -49<br>482 | 50 | | Designer's Reference Handbook | Configurable RMI curve. |
| **10510 RMI 6 input set point 3** | | | | | | |
| 10510 | RMI 6 inp. setp. 3 | 0 Ohm<br>2500 Ohm | 81 Ohm | | Designer's Reference Handbook | Configurable RMI curve. |
| **10520 RMI 6 output set point 3** | | | | | | |
| 10520 | RMI 6 outp. setp. 3 | -49<br>482 | 60 | | Designer's Reference Handbook | Configurable RMI curve. |
| **10530 RMI 6 input set point 4** | | | | | | |
| 10530 | RMI 6 inp. setp. 4 | 0 Ohm<br>2500 Ohm | 134.7 Ohm | | Designer's Reference Handbook | Configurable RMI curve. |
| **10540 RMI 6 output set point 4** | | | | | | |
| 10540 | RMI 6 outp. setp. 4 | -49<br>482 | 80 | | Designer's Reference Handbook | Configurable RMI curve. |
| **10550 RMI 6 input set point 5** | | | | | | |
| 10550 | RMI 6 inp. setp. 5 | 0 Ohm<br>2500 Ohm | 184 Ohm | | Designer's Reference Handbook | Configurable RMI curve. |
| **10560 RMI 6 output set point 5** | | | | | | |

| No. | Setting | Min.<br>Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|
| 10560 | RMI 6 outp. setp. 5 | -49<br>482 | 100 | | Designer's Reference Handbook | Configurable RMI curve. |
| **10570 RMI 6 input set point 6** | | | | | | |
| 10570 | RMI 6 inp. setp. 6 | 0 Ohm<br>2500 Ohm | 200 Ohm | | Designer's Reference Handbook | Configurable RMI curve. |
| **10580 RMI 6 output set point 6** | | | | | | |
| 10580 | RMI 6 outp. setp. 6 | -49<br>482 | 110 | | Designer's Reference Handbook | Configurable RMI curve. |
| **10590 RMI 6 input set point 7** | | | | | | |
| 10590 | RMI 6 inp. setp. 7 | 0 Ohm<br>2500 Ohm | 210 Ohm | | Designer's Reference Handbook | Configurable RMI curve. |
| **10600 RMI 6 output set point 7** | | | | | | |
| 10600 | RMI 6 outp. setp. 7 | -49<br>482 | 115 | | Designer's Reference Handbook | Configurable RMI curve. |
| **10610 RMI 6 input set point 8** | | | | | | |
| 10610 | RMI 6 inp. setp. 8 | 0 Ohm<br>2500 Ohm | 220 Ohm | | Designer's Reference Handbook | Configurable RMI curve. |
| **10620 RMI 6 output set point 8** | | | | | | |
| 10620 | RMI 6 outp. setp. 8 | -49<br>482 | 120 | | Designer's Reference Handbook | Configurable RMI curve. |

### 3.10.2 RMI 7

**RMI 7 settings are only accessible in the utility software.**

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

### 3.10.3 RMI 8

**RMI 8 settings are only accessible in the utility software.**

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

### 3.10.4 RMI 58

**RMI 58 settings are only accessible in the utility software.**

| No. | Setting | Min.<br>Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|
| **11340 RMI 58 type** | | | | | | |
| 11340 | RMI 58 type | Sensor type 1<br>Sensor type 3 | Sensor type 1 | | Designer's Reference Handbook | Selections are:<br>-Sensor type 1<br>-Sensor type 2<br>-Sensor type 3 |

### 3.10.5 RMI 59

**RMI 59 settings are only accessible in the utility software.**

**Menu 11350 equals the settings for RMI 58 (11340).**

## 3.10.6 Multi-input selections

| No. | Setting | Min.<br>Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|
| **10970 Engineering units** | | | | | | |
| 10970 | Engineering units | Bar/Celsius<br>Psi/Fahrenheit | Bar/Celsius | | | |
| **10980 Multi-input configuration 6** | | | | | | |
| 10980 | Multi inp. conf. 6 | 4-20 mA<br>Binary | Binary | | | Possible selections:<br>4-20 mA<br>Pt100<br>Pt1000<br>RMI oil pressure<br>RMI water temp<br>RMI fuel level<br>Binary |
| **10990 Multi-input configuration 7** | | | | | | |
| 10990 | Multi inp. conf. 7 | 4-20 mA<br>Binary | Binary | | | Possible selections:<br>4-20 mA<br>Pt100<br>Pt1000<br>RMI oil pressure<br>RMI water temp<br>RMI fuel level<br>Binary |
| **11000 Multi-input configurable 8** | | | | | | |
| 11000 | Multi inp. conf. 8 | 4-20 mA<br>Binary | Binary | | | Possible selections:<br>4-20 mA<br>Pt100<br>Pt1000<br>RMI oil pressure<br>RMI water temp<br>RMI fuel level<br>Binary |
| **11300 Multi-input configurable 58** | | | | | | |
| 11300 | Multi inp. conf. 58 | 4-20 mA<br>Binary | Binary | | | Possible selections:<br>4-20 mA<br>Pt100<br>Pt1000<br>RMI oil pressure<br>RMI water temp<br>RMI fuel level<br>Binary |
| **11310 Multi-input configurable 59** | | | | | | |

| No. | Setting | Min.<br>Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|
| 11310 | Multi inp. conf. 59 | 4-20 mA<br>Binary | Binary | | | Possible selections:<br>4-20 mA<br>Pt100<br>Pt1000<br>RMI oil pressure<br>RMI water temp<br>RMI fuel level<br>Binary |

## 3.10.7 Analogue unit input scaling

| No. | Setting | | Min.<br>Max. | Factory setting | Notes | Ref. | Description |
|---|---|---|---|---|---|---|---|
| **11010 Analogue unit input scale 6** | | | | | | | |
| | Analogue unit input scale 6 | Set point | None 1/1<br>Ohm 1/10 | mA 1/1 | | | |

**The same settings apply to menus 11020, 11030, 11320 and 11330.**