

ENGINEERING
TOMORROW



Service Guide

GD Troubleshooting Guide Level 1

Designed for industrial and heavy commercial refrigeration systems



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GD Units errors

Table 1: GD Units errors

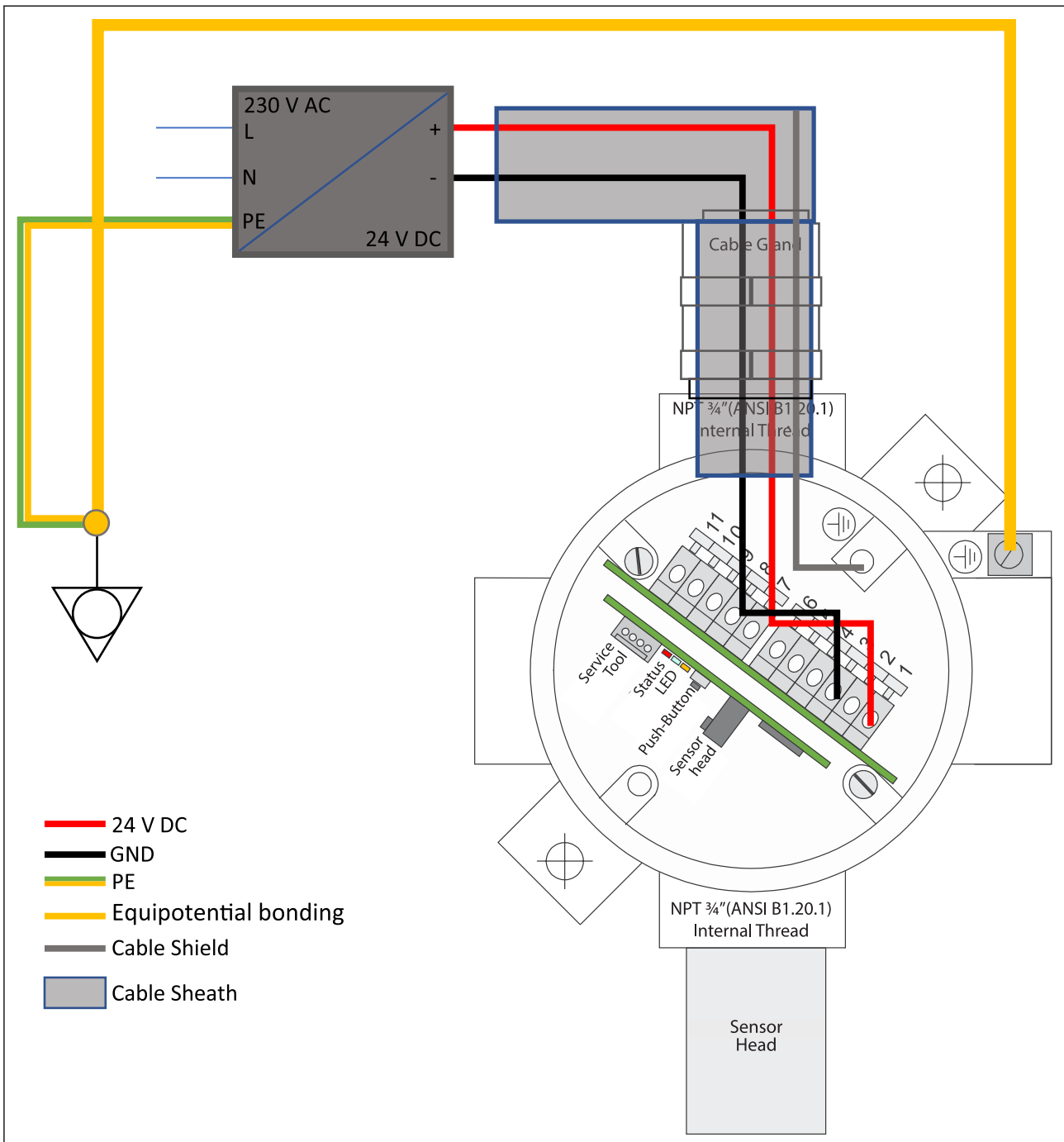
Failure	Possible cause	Action
# Displayed	Maintenance date exceeded	<ol style="list-style-type: none"> Do maintenance, make a zero and gain calibration with test gas <ol style="list-style-type: none"> How to check days left until maintenance. For guidance see <i>GD user Guide paragraph 4.9.2 "Maintenance Interval"</i> Activate "Service Mode" → System Parameters → Maintenance Interval → XX Days → Deactivate "Service Mode"
MP Error Underrange	<ol style="list-style-type: none"> Due to storage, transport and shift in humidity and temperature a drift of the calibration can occur 	<ol style="list-style-type: none"> Make a zero calibration
	<ol style="list-style-type: none"> GD configured as analog sensor not as digital sensor 	<ol style="list-style-type: none"> Return GD Input configuration to -"bus" <ol style="list-style-type: none"> How to check GD Input. For guidance see <i>GD user Guide paragraph 4.13.4 Addressing (Continued)</i> When step 1-2 does not resolve the issue replace the sensor head
MP Error and Com. Error	<ol style="list-style-type: none"> Wrong sensor type installed in relation to the original configuration of the sensor 	<ol style="list-style-type: none"> Install the correct sensor ref information's of the parameter <ol style="list-style-type: none"> How to check sensor type. For guidance see <i>GD user Guide paragraph 4.8.3 "Selection of Gas Type"</i> Activate "Service Mode" → MP Parameters → MP1 active → Nom/Gas/Unit → Save → Deactivate "Service Mode"
	<ol style="list-style-type: none"> Cable connection/plug connection not properly or defect 	<ol style="list-style-type: none"> Check that the sensor head connector is seated correctly on the board Check the sensor head cable for defects
I/O Error	<ol style="list-style-type: none"> The AO (Analog output) is active and not connected nor a resistor (500 Ohm) is installed at the AO terminals 	<ol style="list-style-type: none"> Install a resistor 500 Ohm to the AO terminals or deactivate the AO <ol style="list-style-type: none"> How to deactivate AO. For guidance see <i>GD user Guide paragraph 4.8.1." Deactivate MP"</i> Activate "Service Mode" → MP Parameters → MP1 active → MP Mode Active → Analog Output 0 → Save → Deactivate "Service Mode"
	<ol style="list-style-type: none"> AO has been burned Basic. Terminals X1.4 - X1.5 Premium. Terminals X12.3 - X12.4 Heavy Duty. Terminals 3 – 6 	<ol style="list-style-type: none"> Contact Danfoss
Erratic reading (PPM jumping)	Electromagnetic capability issue	<ol style="list-style-type: none"> Check if cable is expecting the recommended cable type, check if the shield is connected to the ground (see below "Electrical Drawing Example") Check by disconnecting the power supply and connect to a battery 24 V DC or another independent power source Install a ferrite ring on the power supply line (not a Danfoss product) Check if a high-power cable is installed close to sensor or sensor cables
Zero offset reading (stably incorrect PPM)	<ol style="list-style-type: none"> Operation time not enough 	<ol style="list-style-type: none"> Wait 24 hour after start-up of the sensor
	<ol style="list-style-type: none"> Wrong Calibration (zero, gain) 	<ol style="list-style-type: none"> Recalibrate sensor (zero, gain)

GD Controller errors

Table 2: GD Controller errors

Failure	Possible cause	Action
Com. Error From PC Tool 0x9000	1. Sensor not existing or not cabled properly	1. Check wiring connection between controller and sensor terminals (see instructions and below)
	2. Network address overlapping. 2 or more sensors have the same address	2. Check GD addressing A. How to check GD addressing. - For guidance see <i>GD user Guide paragraph 4.13.4. "Addressing"</i> - Activate "Service Mode" → Addressing → setting address → xx → Deactivate "Service Mode" - Address "DP1" in controller should be equal to GD address "1" - Address "DP2" in controller should be equal to GD address "2" etc
	3. Modbus driver is destroyed	Contact Danfoss
Power on time 999	Modbus driver is destroyed	Contact Danfoss
! Service	Maintenance Interval Remembering	1. Do maintenance A. How to check days left until maintenance. - For guidance see <i>GD Controller user Guide paragraph 5.5. "Maintenance Information"</i>

Proper connection for the Heavy Duty devices



- The cable shield must be connected only inside the housing. On the other side, cable shield has not to be connected.
- A grounding cable (min. 4mm²) must be used for grounding on the outside of the housing and has to be installed on the equipotential bonding.
- The connection of PE to the equipotential bonding must only be connected if you use a power supply unit of protection class 1. (It is not necessary to use a power supply with protection class 1.)

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