Troubleshooting Manual

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Document information

Document revisions

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Related articles

- DCU 305 R2 User's Manual
  https://www.auto-maskin.com/prod/dcu-305-r2

- DCU 305 R3 (LT) User's Manual
  https://www.auto-maskin.com/prod/dcu-305-r3

- Rudolf Configuration Software:
  https://www.auto-maskin.com/prod/rudolf-configuration-software-dcu-305

Troubleshooting

#	Symptom	Possible Cause	Remedy
1	The DCU indicates a running engine but the engine is at standstill.	*Typically, the oil pressure switch is configured to indicate a running engine.* *If no rpm signal is present, it is the oil pressure signal that indicates a running engine.* *The switch might be connected inverted.*	*An alarm switch <u>opens</u> to activate the alarm (NC).* *A shutdown switch <u>closes</u> to activate shutdown (NO).*
2	I press the start button but the engine does not start. The cranking relay K1 is not activated.	*1) The DCU indicates a running engine.* *2) The DCU has a Start Disable signal.*	*1) See Symptom #1.* *2) Remove the Start Disable signal.*
3	The remote Start/Stop/Reset functions do not work.	*The DCU is set to LOCAL mode.* *In LOCAL mode, all remote operation is disabled.*	*Bring the DCU out of LOCAL mode.*
4	The alarm "Broken Wire T44" appears.	*1) If terminal 44 is not connected to a relay, this alarm can appear.* *2) The wire to terminal 44 is broken.* *3) The coil of the relay connected to terminal 44 is broken.*	*1) In Rudolf – Relays, select the tickbox "Disable Alarm on Terminal 44".* *2) Replace the wire.* *3) Replace the relay.*
5	The communication port P3 does not work for communication purposes, but I can still connect with Rudolf.	*1) The port is configured for logging and not for communication.* *2) The ID-number is incorrect.* *3) Either of the communication particulars are incorrect*	*1) Change the port to Communication using Rudolf.* *2) Change the ID-number in the DCU (using Rudolf) or in the remote system.* *3) See the Communication Manual for correct setting of the remote system.*
6	I get the "Low Oil Pressure" alarm when the engine has stopped.	*Low Oil Pressure alarm must be disabled when stopped.*	*Check the tickbox "Alarm on Run Only" for the appropriate channel in Rudolf.* ***Note!** This goes for <u>all</u> pressure/flow switches.*
7	I get the alarm "Broken Wire Detected Tx" (Where x is the terminal	*Channels configured to alarm for a broken wire must have a 10k resistor connected*	*1) Connect the10k resistor in parallel with the switch,* *or*

#	Symptom	Possible Cause	Remedy
	number).	*across the switch.*	*2) Clear the checkbox "Broken Wire Detection" for that channel in Rudolf.*
8	The analog bargraph is empty and indicates "----".	*1) Broken wire to the analog sensor.* *2) Faulty sensor* *3) An activated channel that is not in use.*	*1) Verify the wiring.* *2) Change the sensor.* *3) Clear the "Activate" checkbox in Rudolf for the appropriate channel.*
9	The analog bargraph is full (100%).	*1) Connection failure, with +24V connected to the 4-20mA input terminal.* *2) The graph is doubled in Rudolf*	*1) Verify the connections.* *2) Clear the checkbox "Double Scale" in Rudolf.*
10	When cranking, the starter disconnects too early/late.	*1) The rpm-setting "RUN Detected At" is set too low/high.* *2) An oil pressure switch/ sensor are used as an additional run signal, and the oil pressure appears too early.*	*1) In Rudolf, adjust the "RUN Detected At" setting.* *2) In Rudolf, adjust the timer "Initial Delay" for the appropriate channel.*
11	The Warning LED disappeared by itself, without anyone pressing the Acknowledge button.	*Warnings can be set to require acknowledge before disappearing.*	*In Rudolf, change the behaviour of the Warning messages by ticking the checkbox "Warning Requires Acknowledge" in the Main tab.*
12	The engine has stopped but the rpm-meter still indicates a few rpm.	*1) Earth fault* *2) Noise on power supply cables*	*1) Check all wiring. Often, a switch is used where the shield is connected to 0V.* *2) RK-66 is equipped with filters. Try different combinations of dip switches 2, 3 and 4 on RK-66.*
13	Displayed RPM is not stable, but the engine RPM is stable.	*MPU signal not strong enough*	*Remove the MPU and check for dirt. Connect and verify that signal strength is at least 2.5VAC.*
14	I press the Standby/Manual button, but the panel refuses to go to Manual.	*Terminal 61/62 is configured as Standby and activated.*	*Reconfigure*
15	When testing "Primary Battery Failure" by removing wires from terminal 1 and 2,	*Normal*	*None.*

#	Symptom	Possible Cause	Remedy
	the screen temporarily goes black. Is this Normal?		
16	I do not get the alarm *Analog Sensor Failure* when the signal is 0mA.	*The channel is configured for 0-20mA or 0-5V*	*Increase signal strength or configure as 4-20mA.*
17	Alarm led is flashing and cannot be acknowledged.	*One or several Switch channels are activated in Rudolf but have no configuration.*	*Open the Rudolf configuration software, and then deactivate channels not in use.*
18	Common alarm does not alarm when power is lost.	*A configurable relay is used for common alarm. This Does not activate on loss of power.*	*Use the dedicated common alarm relay K5.*
19	J1939 unstable or shows only a few of many configured analog.	*Bad connection in J1939 cable or incorrect cable type.*	*Disconnect power!!* *Disconnect cable on P10 and check for ~120 Ohm resistance on cable-D-SUB Pin 7 and 2. If OK, then check for 120 Ohm on DCU 305's Port P10 pin 7 and 2.*
20	(R3 only) Diagnostic shows 65535, even if there is no actual diagnostic active in the ECM	*Firmware related.*	*Update DCU 305 R3 firmware.* *Contact: service@auto-maskin.com*
21	(R3 only) Rudolf Warning; This version of Rudolf R3 supports Control Unit firmware up to and including 6.57. The version of the connected Control Unit is 6.59.	*The Rudolf SW has not been updated/released after the latest FW release for the DCU 305 R3.*	*Disregard Warning Message or Install;Patch for Rudolf R3 (v 3.5.10).* *This is available from the Auto-Maskin Web site: https://www.auto-maskin.com/prod/rudolf-configuration-software-dcu-305*
22	Difficult to read the Display. No Backlight due to wear.	*Backlight module Worn out*	*Need for Service/Replacement of Display/Backlight* *Contact: service@auto-maskin.com*
23	(R2/RSP only) Brightness Half intensity settings has no effect.	*After introduction of LED Backlight Module (due to EOL of old parts 2016) this functionality is unsupported. DCU 305 R2 S/N >= 11802 RSP 305 S/N >= 9223*	*Use Contrast Adjustment to adjust display intensity.*