Eilersen
The Weighing Experts

5024G Options Guide Analog Output

5024G LCD weighing terminal

Analog output option 4-20mA / 0-10V

Software: StdLim.140630.6v4a

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Introduction

This document describes the use of the Analog Output option on the 5024G Weighing Terminal from Eilersen Electric. With the software version stated on the front page and the Analog Output option enabled the system can transfer analog control signal (4-20mA or 0-10V) to external equipment.

This manual only describes the Analog Output option. For general information on the operation of the 5024G please see the 'Users guide'.

Installation of analog output

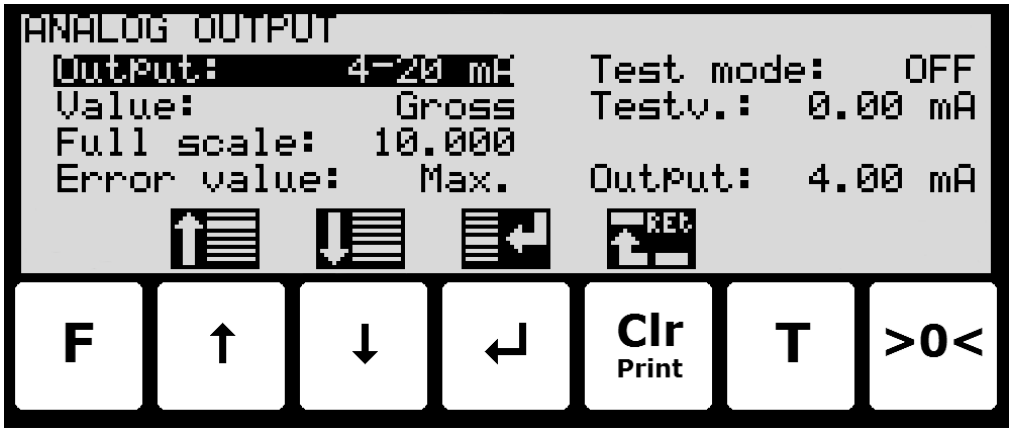
The used analog output on the 5024G weighing terminal must be connected to a corresponding analog input on the external equipment according to the description in ***Appendix B – Electrical connection of analog output***.

In addition, the analog output must be configured according to the guidelines below.

How to

– Configure analog output

In the **ANALOG** screen parameters are shown for the analog output, and it is possible to configure and test this:



Set output type

The analog output type can be current (4-20mA) or voltage (0-10V). Please notice that voltage and current outputs are assigned to two different pins. The pin for the type not used will take a random voltage value from –15V to +15V. The maximum load resistor for current output is 500 ohm.

Set output value

The value used to generate the analog output can be either the current gross weight or the current net weight.

Set full-scale value

When the selected weight is zero, the analog output is at its minimum value (4mA or 0V).

The maximum output value (20mA or 10V) is reached when the weight is at the entered full-scale value.

Set error output value

When the selected weight cannot be calculated e.g. due to load cell not connected or load cell error the analog output can be selected to be at the minimum value (4mA or 0V) or the maximum output value (20mA or 10V).

Use Test mode

When the Test Mode is set to *ON* the analog is not controlled by the current weight but by the test value entered.

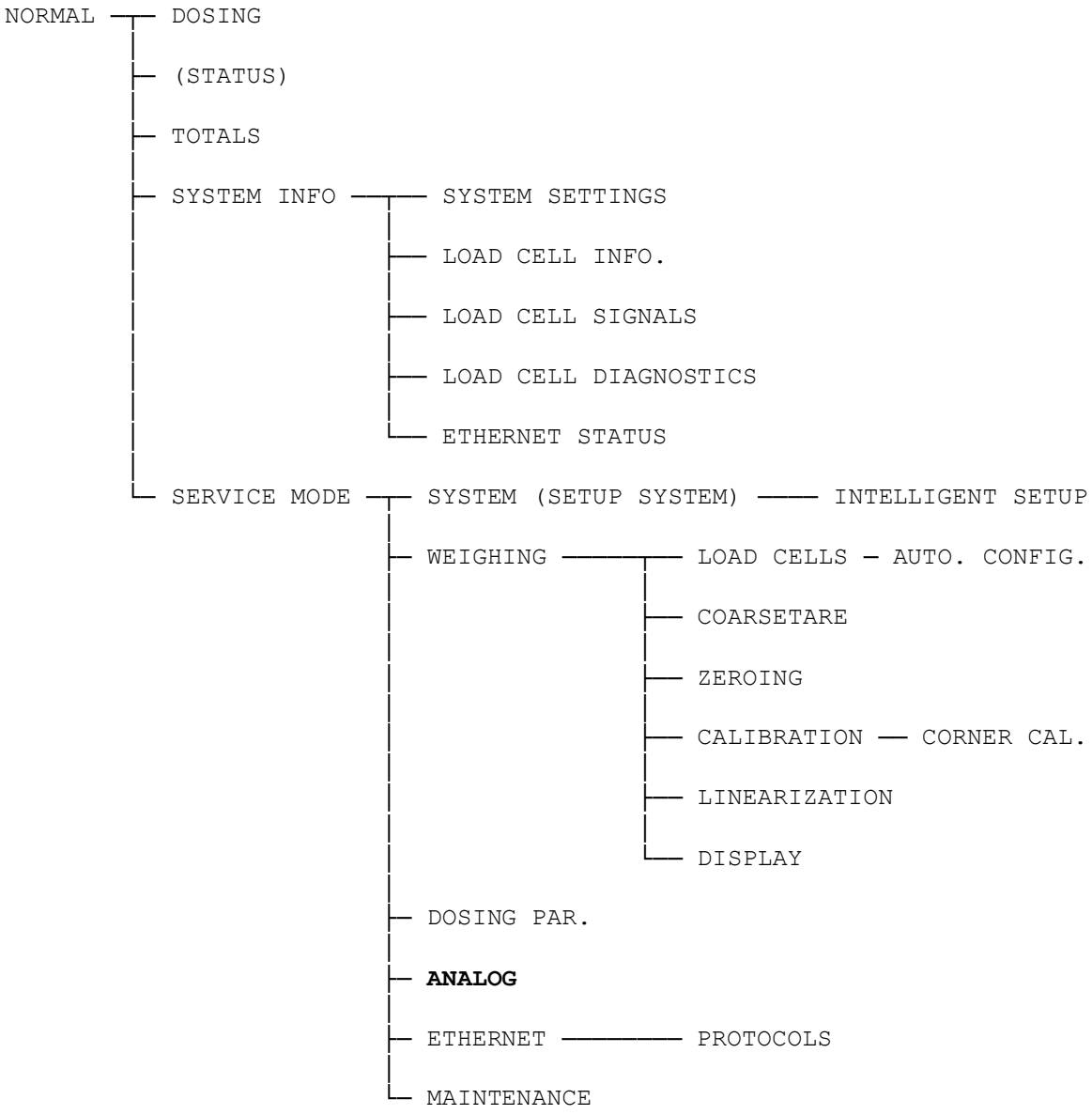
Trouble shooting

Problem	**Explanation and possible solutions**
Analog signal does not follow weight change correctly or is locked on same value	Check the weighing is not mechanically "locked". Check that a weight change actually takes place in the 5024G display. Check that electrical connection is made correct between 5024G and external equipment. Check no load cell errors (***-XXXX-***) are present. Check weight is within weighing range and **UL** or **OL** is not displayed. Check parameters in **ANALOG** screen are configured correctly: - Check "***Test mode***" parameter is NOT enabled (ON). - Check "***Output***" parameter is chosen correctly (4-20mA or 0-10V). - Check "***Value***" parameter is chosen correctly (Gross or Net). - Check "***Full scale***" parameter matches scaling in external equipment. Check the system has been zeroed with empty weighing arrangement. **IMPORTANT:** Perform a test with analog output in "***Test mode***" and apply different test values to the output. **IMPORTANT:** Perform a test with analog output in "***Test mode***" and apply different test values to the output while the output is connected to a multimeter instead of the external equipment. **IMPORTANT:** Remember to disable "***Test mode***" again after finishing tests.
Analog signal is constant on its minimum value (4mA or 0V)	Check if load cell errors (***-XXXX-***) are indicated and "***Error value***" is set to "***Min.***" value. Check if **UL** or **OL** is shown in the 5024G display and "***Error value***" is set to "***Min.***" value. Check if "***Test mode***" parameter is enabled (ON) with a "***Testv.***" corresponding to minimum value (4mA or 0V).
Analog signal is constant on its maximum value (20mA or 10V)	Check if load cell errors (***-XXXX-***) are indicated and "***Error value***" is set to "***Max.***" value. Check if **UL** or **OL** is shown in the 5024G display and "***Error value***" is set to "***Max.***" value. Check if "***Test mode***" parameter is enabled (ON) with a "***Testv.***" corresponding to maximum value (20mA or 10V). Check if "***Full scale***" parameter is set to a value that is less than the actual load.

Appendices

Appendix A – Screens overview

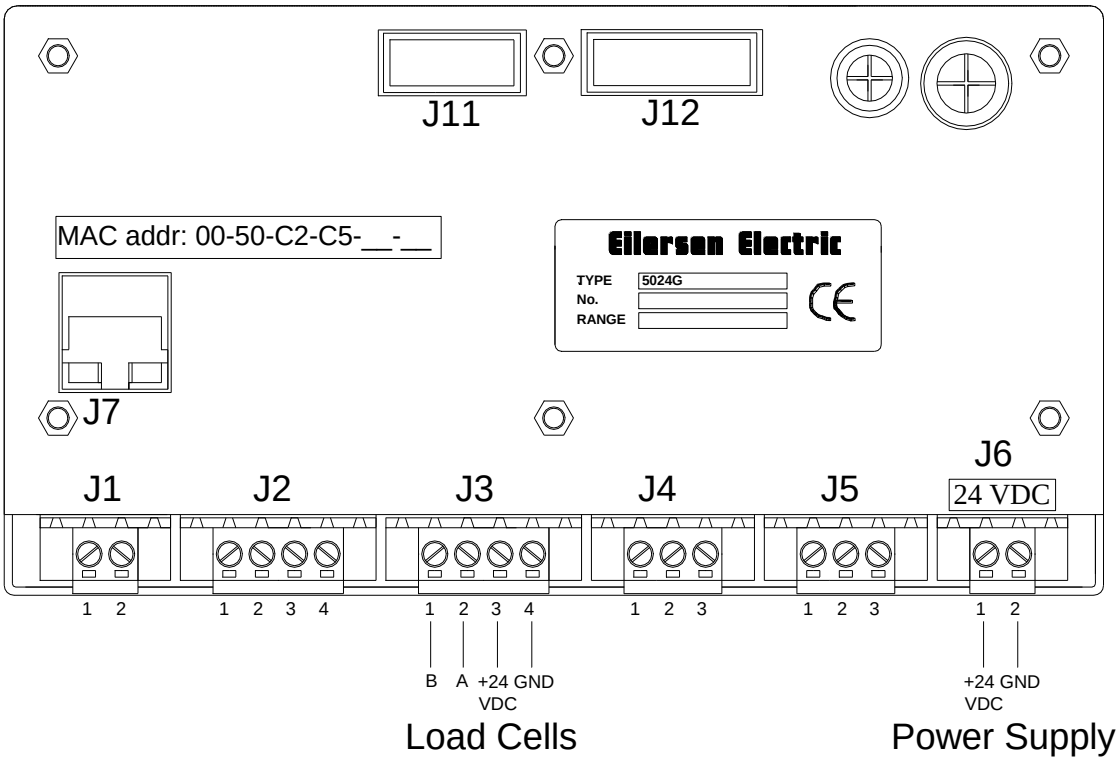
The system has the following screens, which are selected using the menu system. With the analog output option enabled an **ANALOG** screen is added:



Appendix B – Electrical connection of analog output

The following describes the electrical connection of the analog output signal (**either** 4-20mA or 0-10V) on the 5024G terminal.

Rear view



Analog output connector

The 3 pin analog output connector (J5) on the 5024G terminal can be used for output of analog control signals from the 5024G system to external equipment (PLC, analog input card etc.). This connector has the following connections:

J5 pin	Function
1	Analog GND
2	Analog current output Maximum load resistor: 500 ohm
3	Analog voltage output

Revision History

Date	Author	Rev.	*Update*
2018-11-28	HJA	4v0	*Initial document created and adapted.* *(based on StdLim-140630-3v0-OG-AnalogOut-eng)*
2019-01-10	HJA	5v0	*Based on StdLim-140630-4v0-OG-AnalogOut-eng, but:* *Adapted screens overview in Appendix A.*
2019-02-19	HJA	5v1	*Updated references to software ID.*
2019-04-24	jk	5v2	*Updated references to software ID.*
2019-05-20	jk	5v3	*Updated references to software ID.*
2019-09-03	HJA	5V4	*Added Intelligent Setup to screens overview.*
2020-02-18	HJA	5v6	*Added ETHERNET STATUS screen in overview.*
2020-09-08	HJA	5v7	*Updated references to software ID.*
2021-02-11	HJA	5v8	*Updated references to software ID.*
2021-05-07	HJA	6v0	*Updated references to software ID.*
2021-11-12	HJA	6v0a	*Added MAINTENANCE screen to screens overview.*
2022-01-19	HJA	6v1	*Updated references to software ID.*
2022-03-29	HJA	6v2	*Updated references to software ID.*
2022-05-19	HJA	6v2a	*Added figure of the rear side of the 5024 terminal.*
2022-11-28	HJA	6v3	*Updated references to software ID.*
2023-02-23	HJA	6v4	*Updated references to software ID.*

Contact

With further questions or improvement suggestions please contact us:

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