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699PLUS CONTROLLER CONNECTIONS

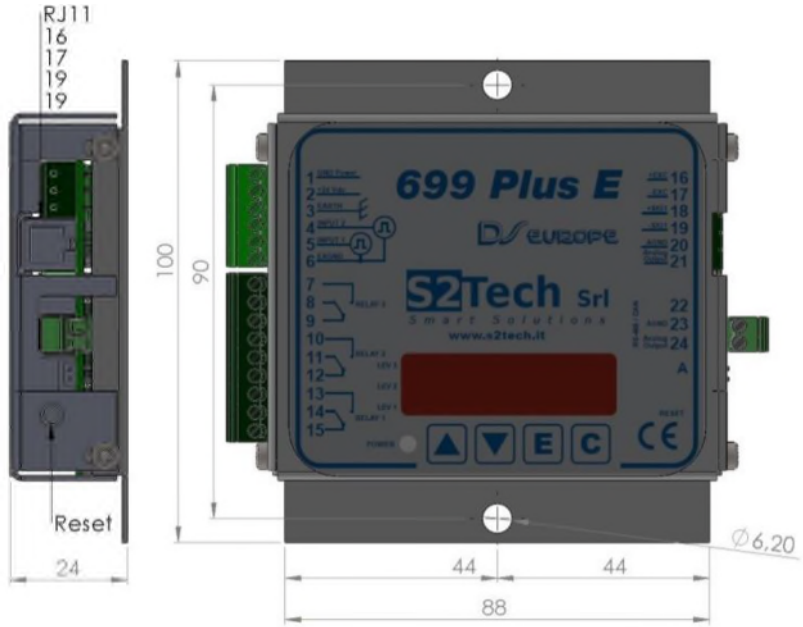
Screw Terminal	Meaning
1	GND (DC POWER SUPPLY)
2	+ 24 V (DC POWER SUPPLY)
3	EARTH connection
4	CONTACT I/O 2 (Display *Zeroing*)
5	CONTACT I/O 1 (Chain compensation)
6	I/O CONTACT's common reference
7	**Relay 3** - *Normally Open contact*
8	**Relay 3** - *Normally Closed contact*
9	**Relay 3** Common contact
10	**Relay 2** - *Normally Open contact*
11	**Relay 2** - *Normally Closed contact*
12	**Relay 2** Common contact
13	**Relay 1** - *Normally Open contact*
14	**Relay 1** - *Normally Closed contact*
15	**Relay 1** Common contact
16	+ power supply to transducer
17	- power supply to transducer
18	+ signal form transducer
19	- signal from transducer
23	AGND (Analog output)
24	Analog Output

Ground to earth the 699 electronics and **respect all the relevant safety and electrical regulations**.

Once performed all the needed electrical connections feed power supply and wait 15 minutes, before calibrating. **Measurement changes are displayed in tens of the used engineering units.**

POWER SUPPLY = 24 Vdc

699PLUS CONTROLLER



QTY 1 699Plus weight controller
QTY 2 Fixing screws, type M4 x 12 UNI 7687
QTY 2 Nuts, type M4

PUSHBUTTONS AND THEIR ACTION for 699Plus programming

Use ▲ or ▼ to view available parameters.

Use **E** to view and modify existing numeric parameter or to confirm changes to parameter. 699Plus indicates that new parameter has been accepted by showing, briefly, **MEMO** and then displaying again the parameter's name.

Use **C** to:

- abort changes to numeric parameter, maintaining the existing value
- end calibration – SAVE changed parameters - and start load measurement

To modify numeric parameters, use ▲ to increase or ▼ to decrease value of one unit.

▲+ **E** increase value of 10 and then 100 units while ▼+ **C** decreases of 10 and then 100 units.

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699PLUS PROGRAMMING MANU PROCEDURE

Calibration of the installed load measuring system must be done when lift's cabin is at the lowest floor of the plant, or at the most frequently used.

Measurement changes are displayed in tens of the used engineering units.

Once system has been installed, enter programming procedure by:

- power the 699Plus keeping pressed ▲+**C** buttons (min 5 sec.), OR
- press ▲+**C** buttons (min 5 sec.) while pressing RESET

Display will show **MANU** to confirm procedure activation.

1 - TARE

a) WITH EMPTY CABIN, send the lift to the lowest floor
b) Jump slightly on top or inside the cabin
c) Use ▲ or ▼ to select **TARE**
d) Press **E** to start count down (60 sec; display shows from **T-60** to **T-0**), step off from the lift and wait until the countdown ends
e) Tare measurement is completed after **MEMO** is displayed and **TARE** is shown again.

2 - HI

a) Place known load in the cabin (from 50% to 80 % of lift's rated capacity)
b) Use ▲ or ▼ to select **HI** and press **E**
c) Enter the weight value in engineering units (Kg/lb) and press **E** to start count down (60 sec, from **T-60** to **T-0**), step off from the lift and wait until the countdown ends
d) If process is successful, **MEMO** is displayed and **HI** is shown again

3 – FSCA: lift's rated load, in engineering unit. *Default value = 0*

a) Use ▲ or ▼ to select **HI** and press **E**
b) Modify **FSCA** load and press **E**

4 – LEV1: Full Load (RELAY 1) as percentage of the rated load (modifiable value)
*Default value = 80 % **FSCA***

a) Use ▲ or ▼ to select **LEV1** and press **E**
b) Modify **LEV1** value and press **E**

5 – LEV2: Overload (RELAY 2) as percentage of the rated load (modifiable value)
*Default value = 110 % **FSCA***

c) Use ▲ or ▼ to select **LEV2** and press **E**
d) Modify **LEV2** value and press **E**

6 – LEV3: Presence (RELAY 3) as percentage of the rated load (modifiable value)
*Default value = 5 % **FSCA***

e) Use ▲ or ▼ to select **LEV3** and press **E**
f) Modify **LEV3** value and press **E**

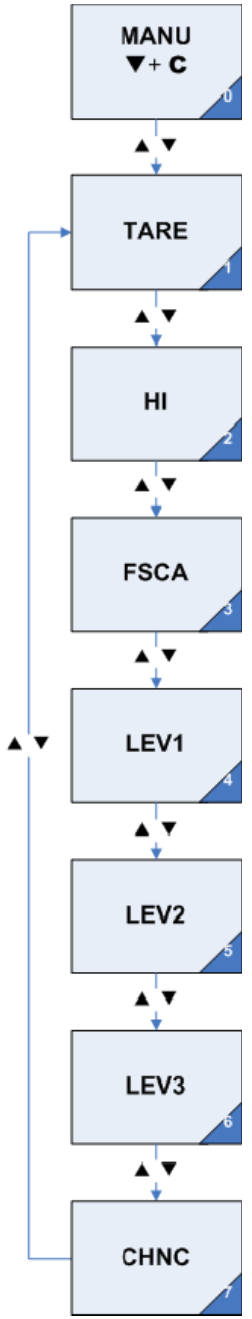
7 – CHNC: Compensation chain enabling signal (contact 5 and 6, continuous +12/24Vac/dc signal when doors are closed). Inactive (default) if **CHNC**=0; active if **CHNC**=1.

g) Use ▲ or ▼ to select **CHNC** and press **E**
h) Select 0 or 1 and press **E**

8 – press **C** to end calibration and save parameters

ERROR CODES

Code	Meaning
ER.01	*Negative Load*: ER01 indication is displayed alternatively to the measured load (the minus sign is displayed only up to three numbers, i.e. -999). *Check connections and recalibrate.*
ER.22	Conversion slope not correct: *too high signal from 942* Strain Link (fix 942 to a more rigid part of the lift frame or substitute it). *Verify that HI value is entered with the right resolution* (use weight at least 80% FSCA).
ER.23	HI value is too low (in engineering units). HI-Tare must be > 10
ER.24	Calibration Load is too low. Increase load.
ER.26	TARE and HI values identical, in engineering units.
ER.28	*Overrange/Underrange*: ER.28 is displayed alternatively to measured load. Verify that sensor mechanical installation is OK and corresponding to Factory indications. In case perform again Sensor Installation. Calibrate again the 699Plus after the modifications.
ER.30	*C button* pressed for more than 3 seconds, when 699Plus controller is in calibration mode.



ADDITIONAL FUNCTIONS

Holding down the C button

By keeping pressed the **C** pushbutton for 5 seconds, the measured weight is zeroed. If this button is pressed for 5 seconds with load inside the car, once the load is removed the 699Plus will show a negative measure. Pressing and holding down the button again, new zero is stored and the display will show positive load once weight is placed inside the cabin. Zero is stored into EEprom memory.

Compensation Chain and Relays block function

When doors are closed, feed between **INPUT1** (terminal 5) and **EXGND** (terminal 6 = GND/common reference) a voltage coming from door relay where:

0 Vac/dc = lift DOOR OPEN.

+12/24Vdc (9/18 Vac) = lift DOOR CLOSED.

In case of black out, send cabin to lowest floor and reconnect the 699Plus control unit again to the power supply. 699Plus will automatically re-check and activate the compensation function.

699 Relay test procedure

Press ▲+**C** buttons and press RESET until display shows TREL.

Press ▲ to test Relay 1, ▼ to test Relay 2 or **E** to test Relay 3.

Press *Reset* button to return to normal measurement operation.

Er.24 Reset

1. ***Reset the unit*** (right side push-button) keeping pressed the ▲ + ▼ + **C** buttons, until display shows **ECLR**
2. Releasing the three front buttons, display shows **CLRA**, to indicate You initiated the procedure
3. Press once **E** button to clear Er.24. Display shows **MEMO** to confirm.
4. Press **C** button to end procedure.
5. Display shows **SAVE** and then will reset of 699Plus.
6. **ECAL** is displayed to warn that controller is UNCALIBRATED and a NEW CALLIBRATION MUST BE DONE.

At this moment, the 699 unit **IS UNCALIBRATED** and a NEW CALIBRATION has to be performed, after having removed the condition that generated the wrong calibration.

Measurement is blinking, as it is based on the *default calibration parameters* (for troubleshooting purposes), **to indicate that a new calibration is needed**.

Electrical Connection limits

Power supply (Terminal 1 and 2):

+ 24 Vdc (-20/+10%) Current 50 mA with inrush current of max 1 A

+ 12 Vdc (-20/+10%) Current 100 mA with inrush current of max 300 mA

Relay - resistive loads (Terminals from 7 to 15): 1 A 24Vdc / 125 Vac

Digital I/O inputs (Terminals from 4 to 6): opto-insulated +12/24 V ac/dc (-20/+10%)

Respect all the relevant safety and electrical regulations.

CE DECLARATION

699 digital conditioner complies with the requirements of the following norms:
EN 61326-1(1997) + A1(1998) + A2(2001) + A3(2003); EN 61000-6-2(2001); EN 61000-3-2(2000) + A2(2005);EN 61000-3-3(1995) + A1(2001); EN 61000-4-2 (1995) + A1(1998) +A2(2001); EN 61000-4-3(2002) + A1(2002); EN 61000-4-4(1995) + A1(2001) + A2(2001); EN 61000-4-5(1995) + A1(2001); EN61000-4-6(1996) + A1(2001); EN 61000-4-8(1993)+A1(2001); EN 61000-4-11(2004)

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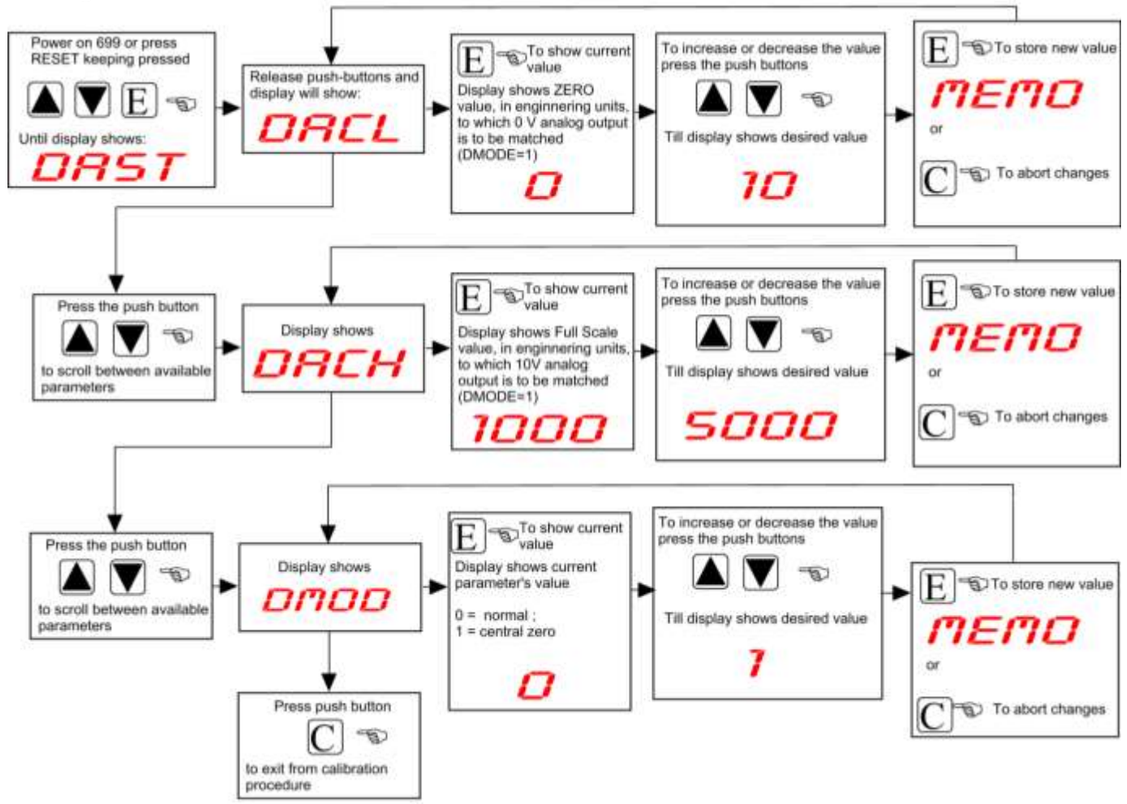
Document history

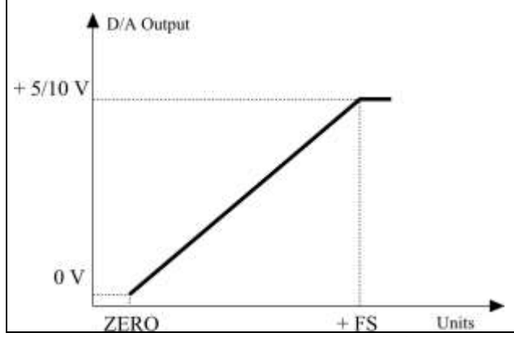
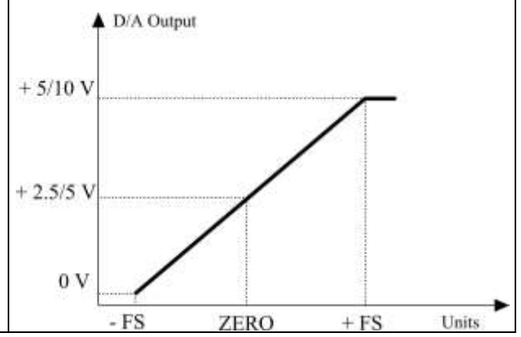
Rev	Date	Description	FW	HW	Writer	Check
3.3	050517		1.38	5.1	SP/CF	CF/CM

A) 699 Plus electronics Analog Output setting (Optional)

Making reference to the 699 customization procedures, parameter setting for analog output signal must be done considering the following flowchart:

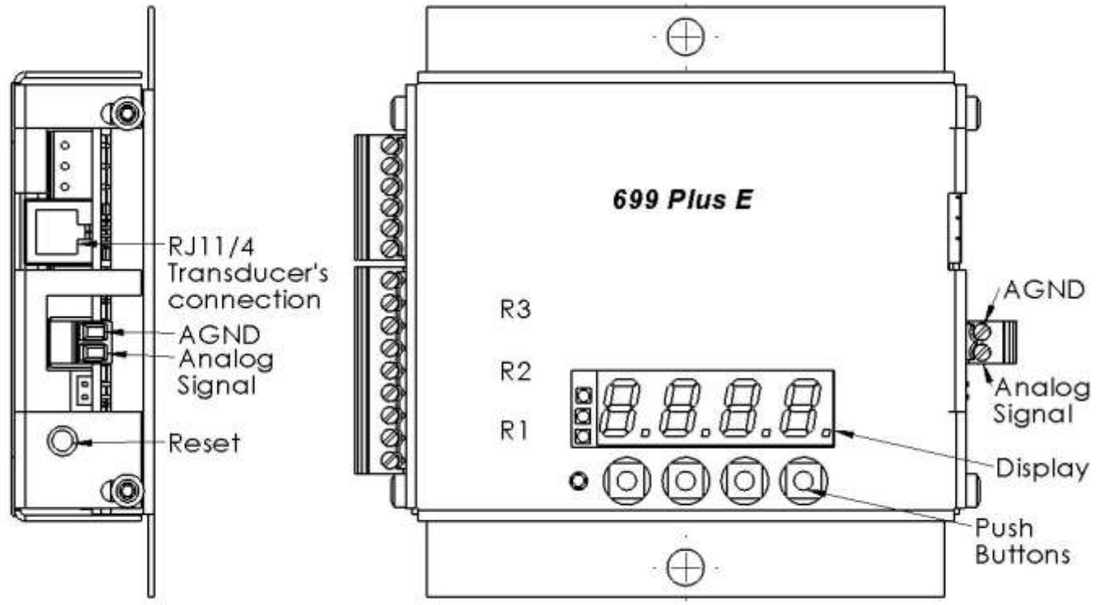


Note: the analog output circuit provides an analog output signal for all operative modes. The firmware version is to be at least 1.17 or higher. To obtain a reversed 10V to 0V output, calibrate DACL with high engineering units (measuring range) while on DACH enter lower ones. Analog output signal connection is as per attached connection scheme.

DMODE = 1	**DMODE = 0**
	

Note: 0 to 10V output signal is available for 699 Plus A1 electronics (code 00.03.010.0010).

B) Analog output connection scheme for code 00.03.010.0010:



Analog Signal A1 = from 0 to 10V **AGND = analog signal GND**

NOTE:

In order to obtain the best accuracy from the instrument's analog output signal, **use 3 wires** to connect the lift's Inverter to 699Plus analog output.

WARNING: POWER SUPPLY MINUS, provided to 699Plus instrument is NOT the AGND analog output ground. Power 699Plus with a floating power supply.

Document history

Rev.	Date	Description	Firmware	Hardware	Writer	Check
0	010618	First issue	699Bv1.00	699V1r0	S.Piardi	D.Disanto

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