

Motorised Battery Switch
CZone Optimised Remote
BATTERY SWITCH OPERATION
AND INSTALLATION INSTRUCTIONS

MARLNCO[®]
BEP PRODUCTS

701-MDCZ	Individually packaged with Wago plug
701-MDCZ-B	Bulk packaged with Wago plug
701-MDCZ-D-B	Bulk packaged with Deutsch plug



- Momentary positive activation allows direct connection from CZone (no relays required!)
- Switch remains “On” even if power or signal connections are lost, for ultimate reliability
- Allows multiple remote switches to be connected
- Directly drives piezo buzzer to provide audible feedback on switch on/off activation
- Manual over-ride to meet ABYC/CE
- Remote activation allows shortest/lightest cable runs, saving installation cost and weight

Features and Benefits

The CZone Optimised Motorised Battery Switch (701-MDCZ) is a further development of the proven 701-MD. It uses momentary positive activation instead of a “latched” negative, plus the red wire can directly drive a piezo buzzer to provide audible feedback whenever the switch operates.

Positive activation allows direct connection from a CZone Output Interface (without additional relays) saving installation cost, and time. The momentary activation also allows multiple remote switches to connect to the same battery switch, providing greater user convenience. If a brownout due to low battery voltage occurs, or in the unlikely event of an NMEA network error or power failure, the 701-MDCZ will remain in the same state (i.e. if it’s “On” it will remain “On”). This provides additional fail-safe functionality when compared to a network controlled 701-MD switch.

The 701-MDCZ allows convenient battery switch operation by placing the remote switch within easy reach of the user, and the battery switch positioned where cable runs are minimized. Reduced cable runs allow smaller section cable to be used, resulting in significant reductions in cable cost, installation time plus weight savings. As well as remote motorized operation, the 701-MDCZ can be manually over-riden by depressing the knob firmly, then turning. From the “Manual Off” position, the switch knob can also be removed, providing additional security, particularly during servicing.

Specifications:

- **Continuous rating:** 275 Amps DC
- **Intermittent rating:** 455 Amps DC
- **Cranking rating:** 250 Amps DC
- **Recommended Maximum Cable Size:** 50mm (1/0). If fitting cable in excess of 50mm (1/0) the cable must be strain relieved with an absolute maximum of 70mm (2/0)
- **Voltage:** 12/24 Volts DC
- **Auto operating range:** 8 to 30.5 Volts DC
- **Operation:** Manual On/Off, Auto On/Off
- **Mounting:** Rear panel, or surface
- **Ignition protected:** Meets UL 1107 standards
- **IP Rating:** Waterproof IPX6
- **Operation:** -20 to +60°C (-4 to 140° F)
- **Storage:** -40 to +80°C (-40 to 176° F)
- **Stud Size:** 2 x 10mm (3/8”)
- **Torque for nuts:** 8Nm (5.9 lbf)
- **Power draw:** Switch in “Off” positions:15mA
- **Materials:** Tinned copper conductors/studs, stainless steel nuts, high temperature fibre reinforced plastics

Wires for Standard Connection:

- **Red:** Optional piezo buzzer connection (maximum load 10mA)
- **Green:** Control wire from remote switch (momentary positive, fused 1A supply)
- **Black:** Supply negative
- **Input Stud:** Connection from battery
- **Black:** Connection to loads

General Operation:

The Motorised Battery Switch, (701-MDCZ) has two modes of operation. Auto and Manual. For remote switch activation the battery switch must be in either “Auto Off” or “Auto On” positions.

To remotely turn battery switch “On”: Momentarily press the remote switch until power up/indication occurs

To remotely turn battery switch “Off”: Press and hold the remote switch for more than 2 seconds

Note: Pressing and holding the remote switch for more than 6 seconds when the switch is in Auto mode forces the switch to turn off, although it may initially turn on depending on position/state.

Auto Operation:

The 701-MDCZ moves between the positions of “Auto Off” and “Auto On” when the remotely mounted momentary switch is activated.

Remote activation of the Battery Switch is not possible whilst in “Manual Off” or “Manual On” positions.

Manual Operation:

The automatic operation of the 701-MD battery switch can be overridden at anytime by **firmly depressing the switch control knob** and turning clockwise to the “Manual On” position, or counter clockwise to the “Manual Off” position.

During the time that the Battery switch is in “Manual On” or “Manual Off” modes, remote activation cannot occur, and the switch will signal this with 3 flashes of its LED and 3 chirps of the piezo buzzer (if fitted) if the remote switch is activated.

Switch LED & Buzzer Indications

1st Power Up: 3 flashes/chirps repeated every 2 seconds

Remote Activation On: 2 flashes/chirps

Remote Activation Off: 1 flash/chirp

Remote Activation While In Manual Modes: 3 flashes/chirps

Over Voltage/Under Voltage: 3 flashes/chirps repeated every 2 seconds

(Voltage is outside specification i.e. Less than 8 Volts or greater than 30.5 Volts)

Battery Switch Labels

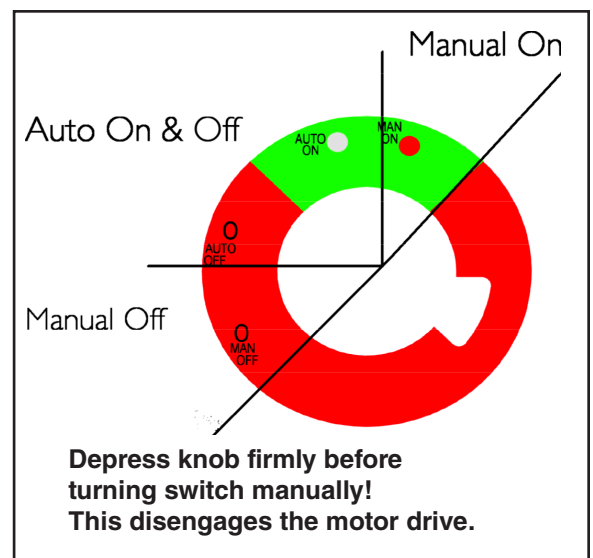
The Motorised battery switch is supplied with a generic battery label. A set of the most commonly used labels can be ordered separately. Part No. 713

Piezo Buzzers

Two compatible piezo buzzers are available:

Part No. 54-27C4 85 decibel buzzer

Part No. 54-35C2 97 decibel buzzer



Installation Instructions

Connections:

- **Black Wire:** Ground/Negative. Connect to common negative busbar
- **Green Wire:** Momentary positive activation. The remote switch positive supply must be fused, 1A fusing is sufficient for this requirement
- **Red Wire:** Optional piezo buzzer connection.
- **Input Stud:** **Must be connected to the battery/supply**
- **Output Stud:** Connect to heavy duty loads

Note: 701-MDCZ requires greater than 3 Volt differential between the Input Stud and Output Stud (measured with battery switch “Off”) to work correctly. It is not suitable for use where similar voltage is always present on both studs e.g. not suitable as an emergency parallel switch

General Notes

- If remote LED indication is required, please connect LED positive to the load side (Output stud) of the 701-MDCZ
- 701-MDCZ requires momentary positive activation on the Green wire. It has a red warning label on the grey lead detailing connections. It must not be confused with the 701-MD which requires On/Off switched negative activation on the Green wire, and can be identified by a black warning label
- When connecting remote switching to multiple 701-MDCZ battery switches, where both 12V and 24V loads are being switched, the power supply to all remote switches should be 12 volt only, to avoid any risk of 24V back-feeding in case of wiring/switching faults. Best practice is to supply all interconnected remote switches from the same battery/supply
- Ensure battery negatives are commoned
- Cannot be used between 2 battery banks for parallel function. 701-MDCZ requires voltage differential between Input and Output studs (between Battery and Loads when the switch is “Off”) to operate correctly
- If using supplied Wago plugs, care must be taken they are fitted in a dry area or junction box. For wet areas it is recommended to either use the Deutsch plug version or use glued crimp fittings
- **Warning:** Flooded connections/short circuited remote switch/wiring could result in the battery switch turning off unexpectedly. Ensure remote switch wiring connections are situated in a dry, protected area, or are sealed, and that connections are protected from potential short circuits. Ensure that all wiring is secured to ABYC/ISO standards in order to provide trouble free operation

Deutsch Plug Version (701-MDCZ-D-B)

Deutsch plug parts fitted to the battery switch are as below. See diagram on Page 6 for details.

Part#:	Part Description:
DTM06-3S	DEUTSCH MALE PLUG MINI VER 3 POS
DT0462-201	DEUTSCH SOCKET CONTACT 20AWG
WM-3S	DEUTSCH LOCKING WEDGE FOR DTM06-3S

CZone Controlled Installations

Connections:

- **Black Wire:** Ground. When connected to multiple battery switches ground connection must be to commoned negative busbar
- **Green Wire:** Momentary positive activation from CZone Output Module. Fit a 2A override fuse to the CZone output channel
- **Red Wire:** Optional remote piezo buzzer
- **Input Stud:** Must be connected to battery
- **Output Stud:** Connect to heavy duty loads

Configuration/Software Setup

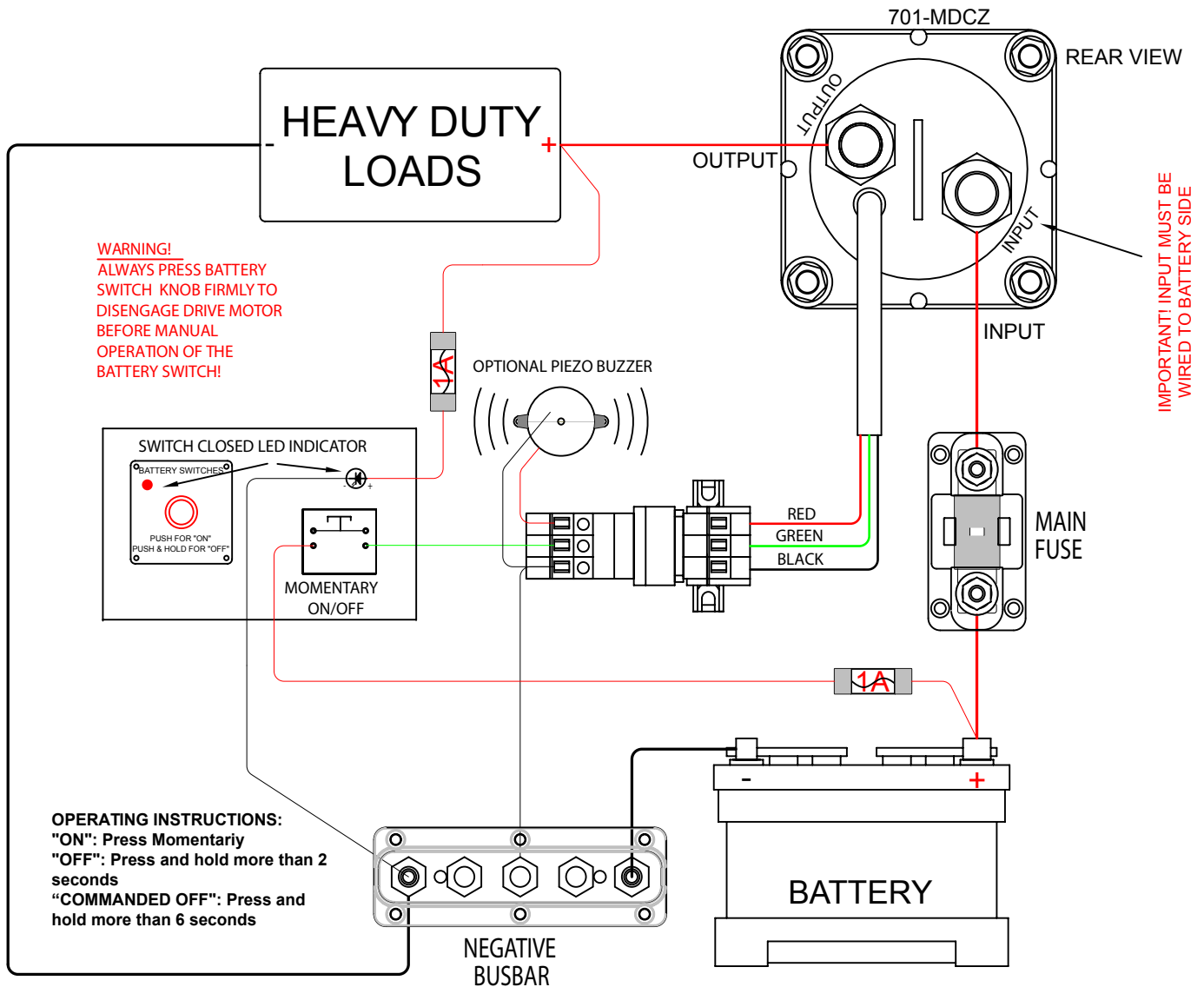
- Configure "On" signal to be a pulse of duration 0.5 seconds
- Configure "Off" signal to be a pulse of 2.5 seconds
- If battery switch is only controlled by CZone, battery switch status can be configured through the use of a virtual load
- If battery switch is controlled by both CZone and directly wired switches or a wireless keyfob it will be necessary to take a sense connection from the output side of the battery switch into a Signal Interface in order to correctly display switch status
- Alternatively status can be monitored if any of the CZone modules are powered on and off by the switch. A Virtual Load can be created which turns on whenever the module is powered

For more information please refer to the 701-MDCZ page on the marinco.com website

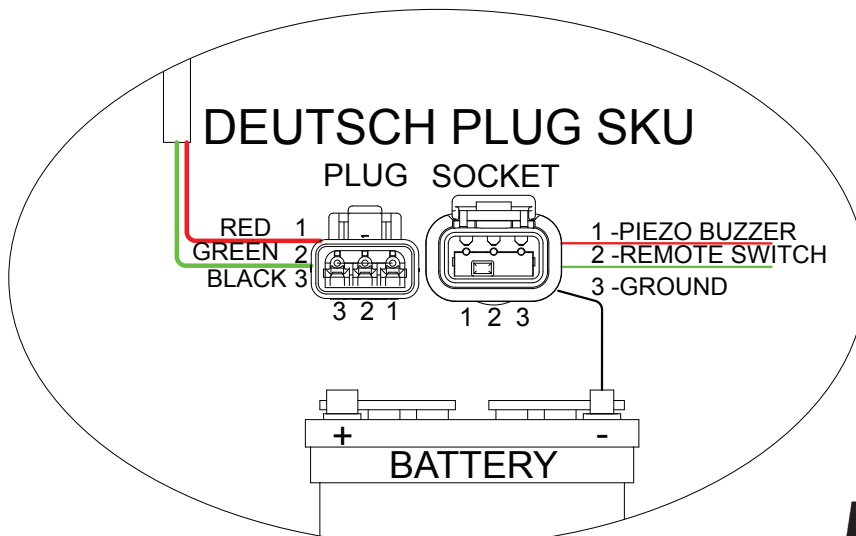


The image shows a screenshot of the Marinco website. At the top, the Marinco logo is displayed in yellow and black, with the text "INCLUDING: BEP AFI GUEST NICR" below it. To the right of the logo are three yellow buttons: "DISTRIBUTOR LOCATOR", "SALES BRIDGE", and "ENGLISH". Below the logo is a navigation menu with links for Home, Products, Markets, Resources, About, News, Careers, Contact, and Our Brands. A search bar is located on the right side of the navigation menu. The main content area features a large image of a white yacht on the water. Overlaid on the image is the text "ProMariner™" in large black letters. Below the image, there is a dark grey banner with the text "Announcing Our Newest Acquisition... Welcome ProMariner!" in white. At the bottom of the banner, there is a smaller image of a yellow battery and a black control panel with a screen displaying "ProMariner ProSport20 plus".

Simple Installation:

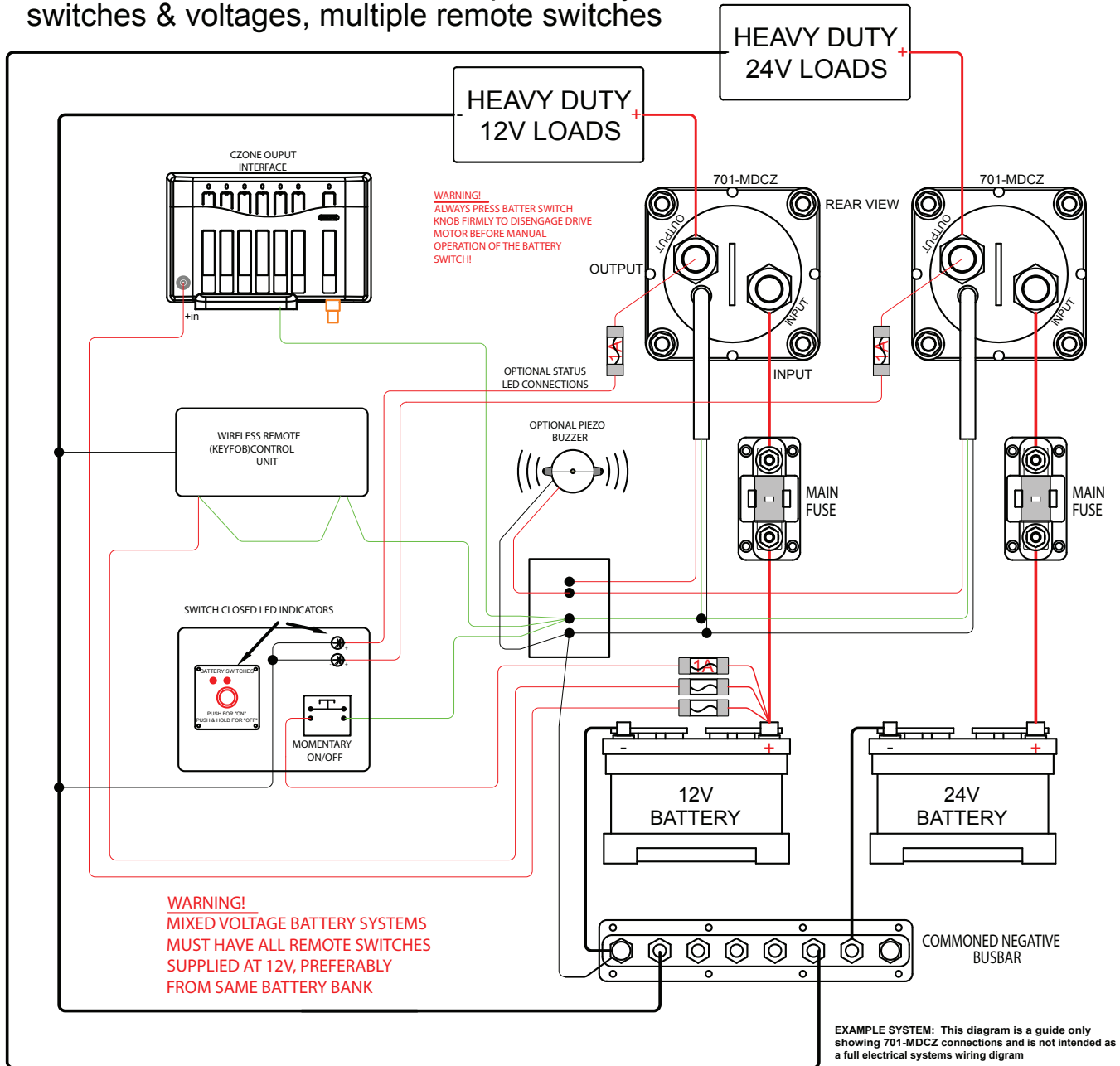


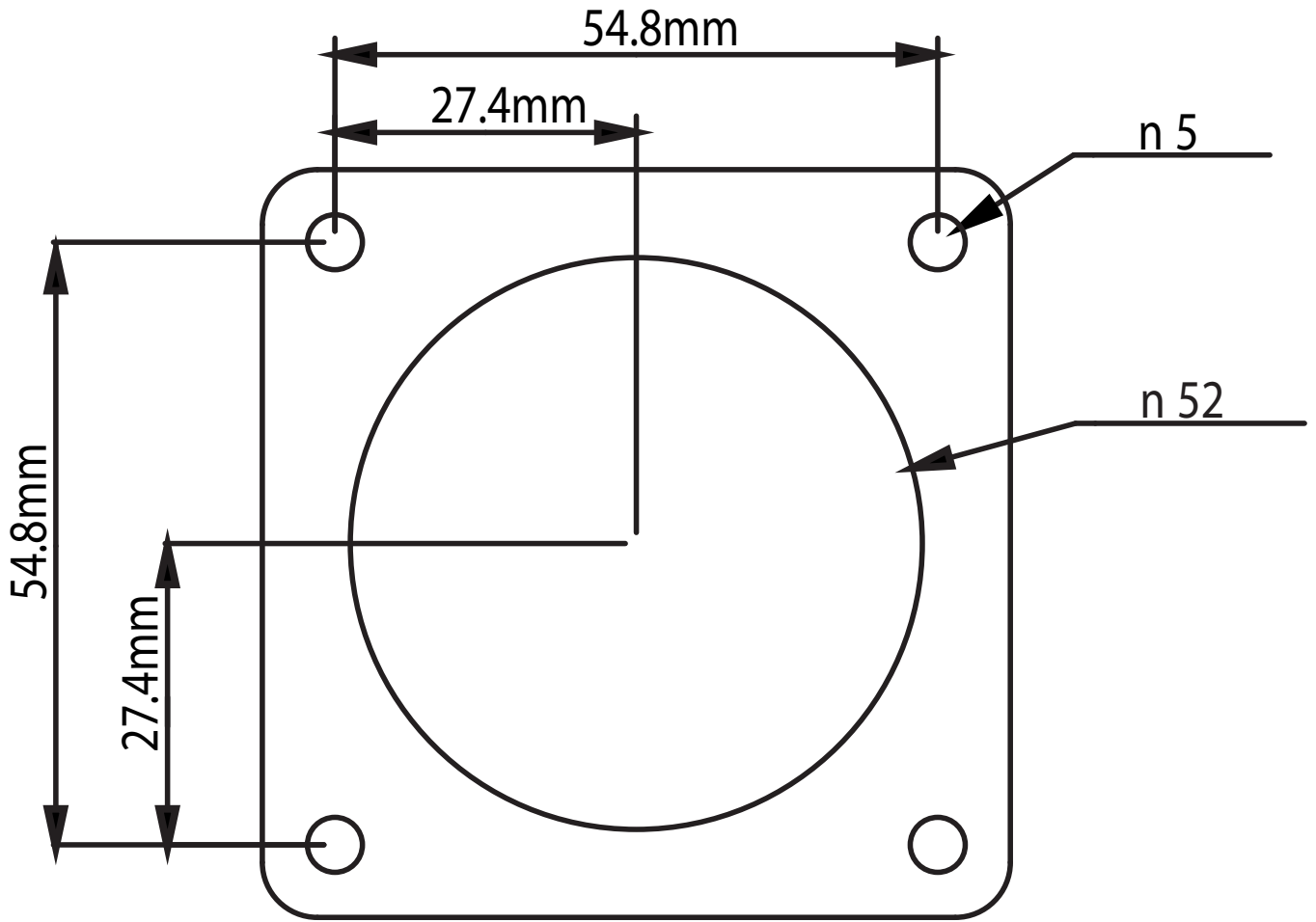
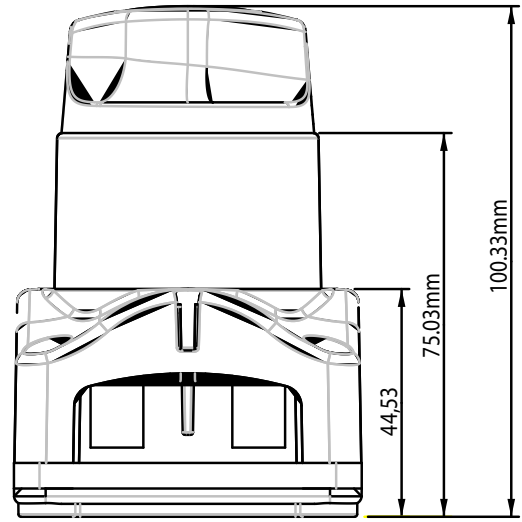
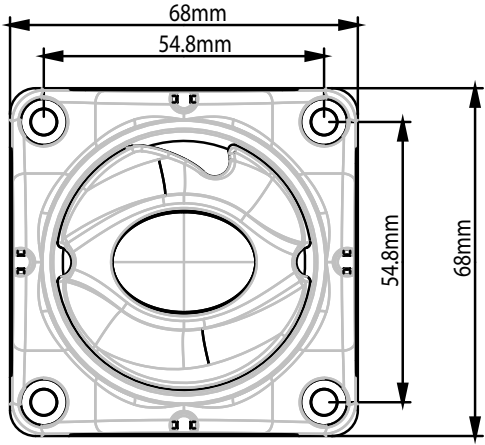
EXAMPLE SYSTEM: This diagram is a guide only showing 701-MDCZ connections and is not intended as a full electrical systems wiring diagram



Complex Installation:

COMPLEX INSTALLATION: Multiple battery switches & voltages, multiple remote switches





Cut Out Template

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