



OUTDOORS

SMART SERIES

Clay Target Machine Electrics



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Thank you for purchasing the Smart Series Electrics from MEC Outdoors! These modules are designed to eliminate electronic component failures in the field. Machines equipped with the new Smart Series Electrics are extremely user friendly and packed full of useful features! With the push of a button, you can view the machines life cycle target count, resettable target count, current battery level, and machine status. These modules have built in parameters to notify the user of any critical machine issues. In the event of a machine malfunction, a specific code will light up on the screen providing information as to what failed. **A full listing of all the fault codes can be found on pages 5 & 6 of this manual.** We put the Smart Series Electrics through a vigorous testing cycle and have proven that they are built to work in any climate!

SMART TECHNOLOGY

FEATURES:

- Target counter along with resettable counter to track machine usage by each clay target thrown.
- Fault codes will be displayed if the trap has a malfunction.
- Built in Battery Voltage Readout: Machine will automatically turn off when voltage drops below 10V to prevent machine damage.
- IP67 waterproof rating.
- Reverse Polarity Protection
- Electronics enclosed in Noryl resin.
- Tested in extreme hot, cold, and wet environments.
- Board can quickly be replaced in the event of a malfunction and is a covered item within the machine's warranty period.



Easily toggle through functions and check how many targets have been thrown.



Displays the current status of the clay target machine.

A WORD ABOUT SAFETY

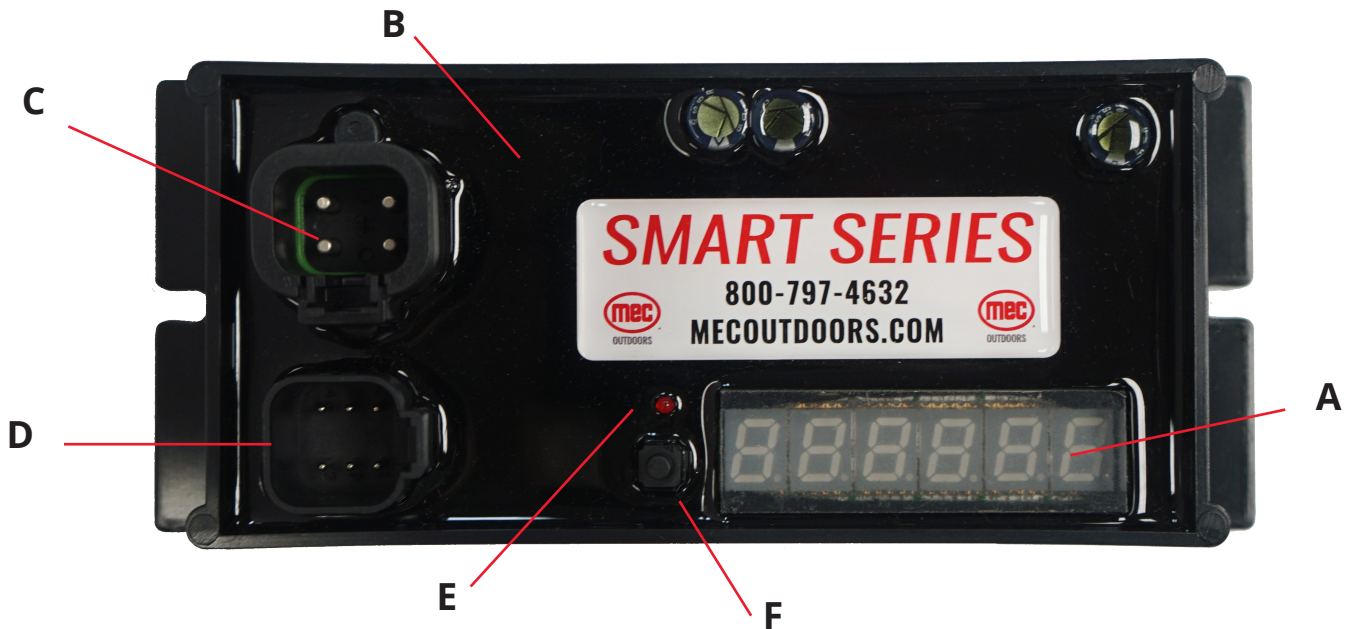
To make your clay target machine is safe for the operator and those around, we recommend you follow these basic safety guidelines before conducting any functions on your machine:

- Never make any adjustments unless the machine is disarmed and the battery is disconnected.
- Never load targets unless the machine is disarmed and the battery is disconnected.
- Never move or reposition unless the machine is disarmed and battery disconnected.
- Always stand behind the machine at a safe distance when operating.
- Always read and follow all operating instructions prior to using the clay target machine.

GET TO KNOW THE SMART SERIES

Before you begin using the Smart Series, we recommend you look over your control panel and compare it with the picture below. Identify all the major components and codes listed on the next pages.

Shown: 300E Smart Series
Standard Item #120300ES1



A - LED DISPLAY: Displays current setting, codes or errors.

B - NORYL RESIN COATING: Protects electronics from weather elements.

C - POWER PLUG: Connects 2 power wires and 2 motor wires.

D - ARM/DISARM PLUG: Connects the pull cord plug and limit switch wires.

E - INDICATOR LIGHT: Red when armed. Blinks when in sleep mode.

F - SELECTOR BUTTON: Toggle through to view clay counter, lifetime counter, resettable counter, battery voltage and firmware version. Press and hold 5 seconds to reset the counter when on the counter screen.



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DISPLAY CODES

CODE/COUNTERS	DESCRIPTION
UNSAFE/LOADED	Machine is armed.
LIFETIME COUNTER	(Push to view counter number) Displays machines life cycle target count. This also includes every time the machine is fired when a clay target is not launched.
RESETTABLE COUNTER	Used to track usage over specific times. To reset, press and hold selector button until the screen zeros out. Dash indicates resettable screen.
BATTERY VOLTAGE	(Push until voltage displays) Displays the current voltage of the battery.
Firmware Version	Displays the current Smart Electrics Firmware Version.

***NEVER USE THE SELECTOR WHEN MACHINE IS ARMED.**

TROUBLE SHOOTING

CODES	PROBLEM	SOLUTION
FAULT1	Motor overload, becomes a hard fault after third attempt to recover. (Locked Gear Box)	Replace the motor/gearbox.
FAULT2	Arm lever is cocked, but limit switch is closed. (Mechanical Fault)	Replace the limit switch.
FAULT7	Brake's FET is experiencing a short between gate and source.	Disconnect power, wait 5 seconds or longer and then reconnect.

TROUBLE SHOOTING

CODES	PROBLEM	SOLUTION
FAULT8	Open load detected.	Disconnect power, wait 5 seconds or longer and then reconnect.
FAULT9	Run-Away motor - Limit switch remains un-cocked for more than 4 seconds.	Disconnect power, wait 5 seconds or longer and then reconnect.
OVERLd	After 3 consecutive FAULT1 recover attempts (after letting the smart driver to cool down before the next attempt.)	Disconnect power, wait 5 seconds or longer and then reconnect.
OUETHt	After 3 consecutive FAULT1 recover attempts (no smart FET's cool down before the next attempt.)	Disconnect power, wait 5 seconds or longer and then reconnect.
HI BAT	<10V	Check battery connection. Replace battery if it continues.
LO BAT	>15V	Replace with a charged battery.
OFFbat	The system discovered that the battery was out of range for more than 3 seconds	Reconnect the battery.
TEST or SU1	Water or condensation causing corrosion and unwanted shorts on the Arm/Disarm switch.	Verify or Replace the Arm/Disarm switch.

ADDITIONAL TROUBLE SHOOTING TIPS

- If the display reads unsafe/loaded, but is in the disarm position with the toggle switch armed, the limit switch is stuck in the closed position and will need to be fixed or replaced.

MOUNTING INSTRUCTIONS

**Note: If your MEC Clay Target Machine was built prior to November of 2019, you will need to use the included 3M Dual Lock strips to mount the SMART Electrics Pod to the mainframe of your machine. You can locate your machine's year and month by referring to Fig 1.*

If you are retrofitting the SMART Electrics on a non MEC Machine you will need to use the 3M Dual Lock Strips.

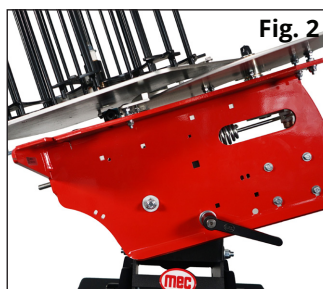
To see if your machine already has the mainframe holes pre-drilled refer to Fig.15 on the following page. If the holes are in place, you will find 2 holes drilled through the mainframe 6.75" apart.



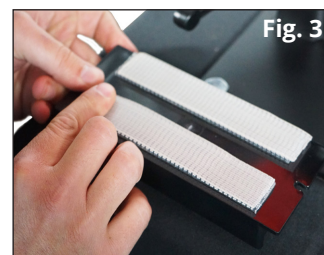
Tools Required for Mounting to a MEC Machine:

- ½" wrench
- Phillips Screwdriver
- Wire Crimping Tool
- 10mm wrench (Not required if mounting pod to the mainframe with 3M Dual Lock Strips)

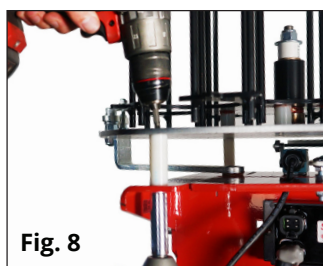
Step 1 - Remove all previously existing electrical components from the machine (Fig. 2).



Step 2 - Mount the SMART Series Pod onto the mainframe. For this step you will either use the included hardware to mount directly to the frame, or the included 3M Dual Lock Strips. (Fig. 3) If using the strips, make sure to place the pod within close proximity of where the old electric box used to be. (Fig. 4)



Step 3 - Connect the J1 Plug into the SMART Series Pod (refer to Fig. 5 & Fig. 15). Once that plug is connected, take the limit switch wire and reconnect to the limit switch. (Fig. 6 & 7) After this is complete you can reattach the top plate. (Fig. 8)



Step 4 - Connect the J2 Plug into the SMART Series Pod (refer to Fig. 9 & Fig. 15). Once that plug is connected, run the motor wires through the mainframe hole cutout and reattach to the motor. (Fig. 10) *You will receive two types of male connectors that will attach to positive and negative wires. Check what style connectors your motor has in order to determine what style connectors you need to use.

Step 5 - Use the included zip ties to secure the wiring to the mainframe and motor. (Fig. 11 & Fig. 13) The large zip tie is to be used on the motor. (Fig. 12)

Step 6 - Hook the machine up to power to verify the machine is working properly. (Fig. 14)

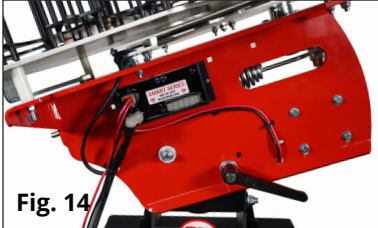
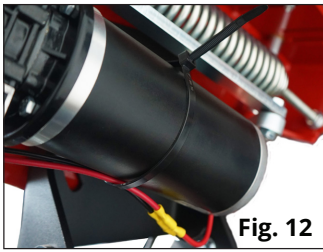
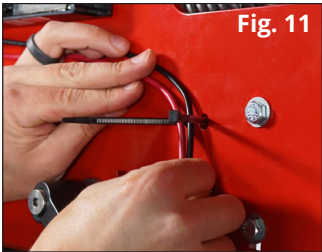
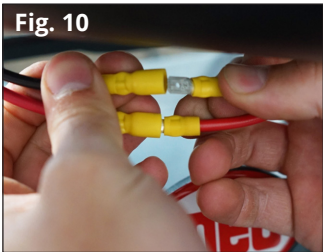
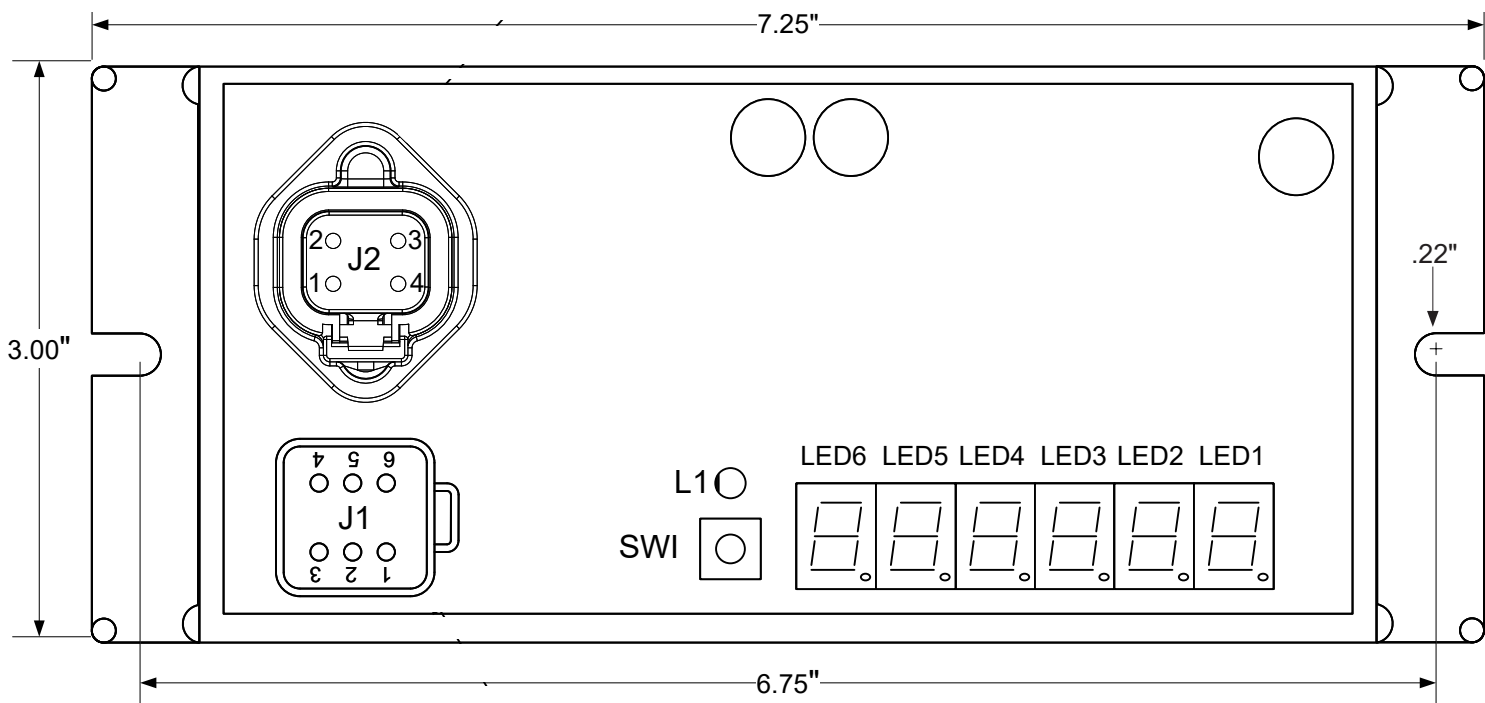


FIG.15
Actual Size and Measurements of the Smart Series Control Panel



CUSTOMER SERVICE

We are here to help. If you have any questions not covered in this manual, please reach out to our sales and technical support staff.

MEC Outdoors

Phone: 800-797-4632 press 2

Email: ctmsales@mecoutdoors.com

Hours: Mon - Fri 8am - 3pm (dates and times may vary during holidays)

***NOTE: Please be sure to include your machine model number & serial number**

Website: www.mecoutdoors.com

Find us on social media:



NOTES:

MODEL NUMBER: _____

SERIAL NUMBER: _____



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