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**Manual # 99906366**

# Proportional Valve Driver Operator's Manual

**Revised 08-01-2022**



**Iowa Mold Tooling Co., Inc. is an Oshkosh Corporation Company**

# Table of Contents

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# Introduction

Section - 1

## Proportional Valve Driver Part Numbers

Part Number 77040784, Proportional Valve Driver. includes the following:

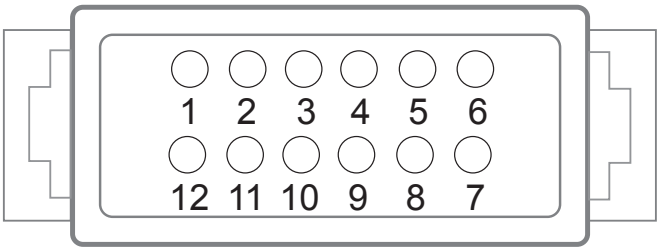
| ITEM NO. | PART NO. | DESCRIPTION | QTY. |
|---|---|---|---|
| 1. | 77040784 | PROGRAMMED VALVE DRIVER | 1 |
| | - | ADAPTER CABLE | 1 |
| 2. | 99906366 | MANUAL-PROPORTIONAL VALVE DRIVER | 1 |
| 3. | 70490166 | VALVE DRIVER QUICK GUIDE | 1 |

# Specifications

Section - 2

## Specifications

| PRODUCT PARAMETERS | |
|---|---|
| Supply voltage | 9 to 36 Vdc |
| Operating temperature (Ambient) | -40ºF to 158ºF (-40ºC to 70ºC) |
| Storage temperature | -40ºF to 185ºF (-40ºC to 85ºC) |
| Programming temperature | 32ºF to 158ºF (0ºC to 70ºC) |
| IP rating (with mating connector attached) | IP 67 |
| EMI / RFE rating | 100 V/M |
| Weight | 0.88 lb (0.40kg) |
| Vibration | IEC 60068-2-64 |
| Shock | IEC 60068-2-27 test Ea |
| Maximum current, sourcing | 8 A |
| Maximum current, sinking | 8 A |

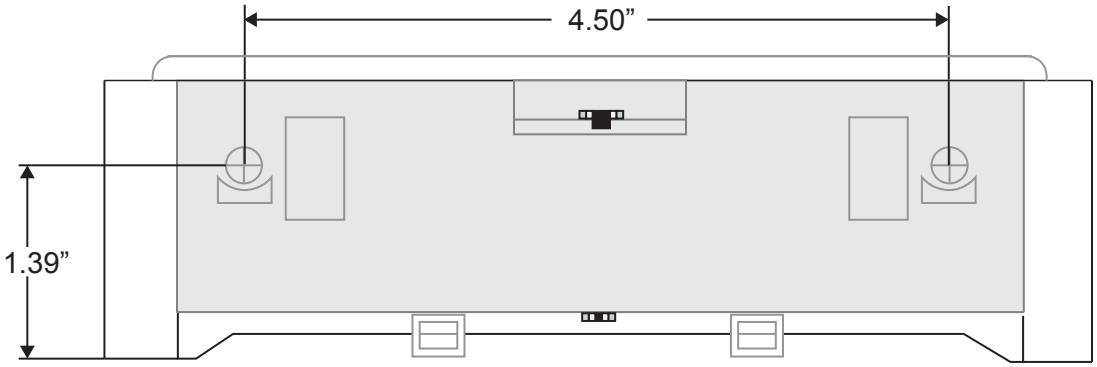


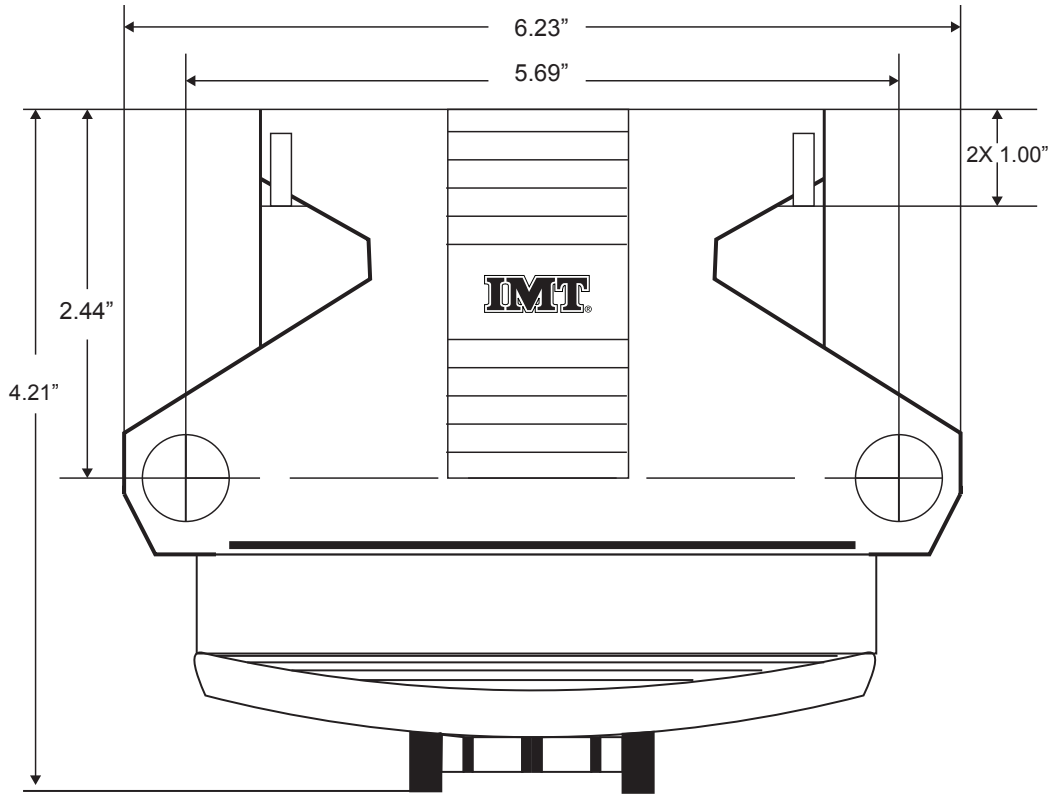

**NOTE: Use care when wiring mating connector. Pinouts are for device pins.**

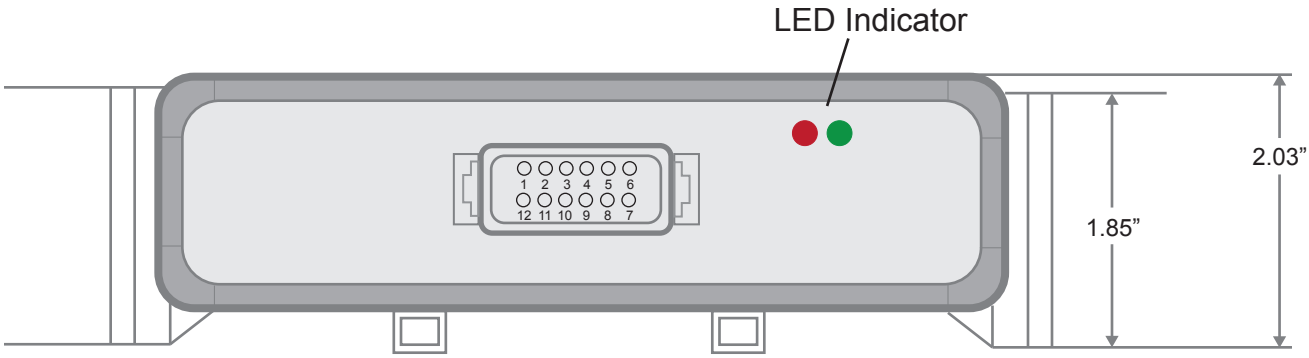
| CONNECTOR | |
|---|---|
| Pin | Controller Function |
| C1-P1 | Power ground - |
| C1-P2 | Power supply + |
| C1-P3 | CAN + |
| C1-P4 | CAN - |
| C1-P5 | AIN/CAN shield |
| C1-P6 | 5 Vdc sensor power + |
| C1-P7 | Sensor power ground - |
| C1-P8 | DIN / AIN / FreqIN |
| C1-P9 | DIN / AIN / FreqIN |
| C1-P10 | DIN / AIN / FreqIN |
| C1-P11 | PWMOUT / DOUT/ PVGOUT |
| C1-P12 | PWMOUT / DOUT/ PVGOUT |

| WIRE HARNESS PINOUT | | |
|---|---|---|
| **C32 Pinout** | **Controller Pinout** | **Function** |
| A | P2 | System Power |
| B | P1 | System Ground |
| C | P1 | Coil ground |
| D | P11 | Coil signal |
| **C31 Pinout** | **Controller Pinout** | **Function** |
| A | P6 | Sensor power (5v) |
| B | P8 | Trigger signal |
| C | P9 | ON HI (Power ON) (Hydraulic Enable) |
| D | P7 | Sensor Ground |

## Mounting Dimensions



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# Installation & Calibration

# Section - 3

## Calibrate / Recalibrate Valve Driver (Rev. 4)

The voltage input from the potentiometer needs to be calibrated for each valve driver. Follow these steps for the calibration process

1. Power ON valve driver–green LED light on.
2. Toggle POWER ON switch (to the right) off and on 5 times within 5 seconds to start calibration sequence.
3. Green LED flash at 2 Hz continously.
4. Wait 5 seconds.
5. Pull trigger tightly towards you for 5 seconds.
6. Green LED stops flashing and remains solid.
7. Calbiration complete.

**NOTE:** Driver output must be disabled during the calibration process. A power cycle will be required after the calibration.

**SEE QUICK GUIDE INCLUDED WITH VALVE DRIVER.**

## Calibrate / Recalibrate Valve Driver (Rev. 5)

1. Power ON valve driver-green LED light on.
2. Toggle POWER ON switch (to the right and back to center) 5 times within 5 seconds to start calibration sequence.
3. Wait for red LED to start a slow blinking.
4. Pull trigger tightly towards you.
5. Hold trigger until the red LED changes from a slow to fast blinking.
6. Shut down power to the crane.
7. Calibration completed.

# Fault Codes

Section - 4

## Red / Green Indicator LEDs

On startup, the green LED (see page 5 for location) indicator blinks ON/OFF/ON. The number of times it goes OFF is related to the REV number. Once the revision sequence blinking is completed, the green LED will follow the blink code sequence.

If calibration is required, the code 33 is active.

A blink code is established for each fault. The red LED will blink each error sequentially based on blink code table shown below:

| BLINK CODE | REASON FOR FAULT | CORRECTIVE ACTION |
|---|---|---|
| 21 | Output fault | Check wiring and make sure connector is seated correctly. Replace coil if nothing is found. |
| 22 | Sensor power | Power off, if it happens again replace valve driver. |
| 23 | Trigger fault | Replace Trigger or pendant assembly. |
| 24 | Enable is ON on startup | Move enable to center position. |
| 25 | Trigger pulled on start | Release trigger. |
| 26 | Voltage dropped below 10.5 volts | Check fuses, power, and wiring. |
| 33 | Not calibrated | See Section 3, Installation & Calibration. Cycle hydraulic enable 5 times relatively quick to enable calibration. Green light will start to blink, put enable switch in the center wait 5 seconds, then pull the trigger all the way. Once blink goes to solid, it is calibrated for that handle. |

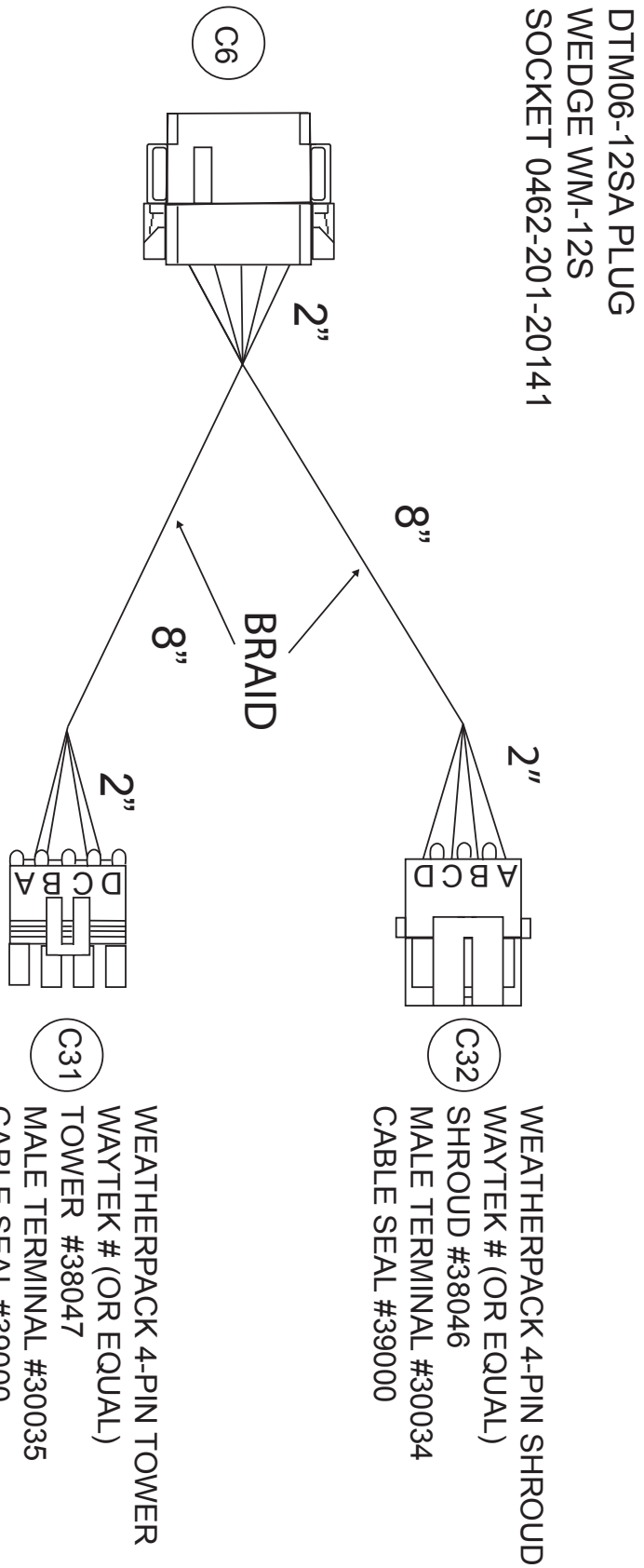
## Revisions

| LEVEL | DESCRIPTION - ECO NUMBER | DATE | BY |
|---|---|---|---|
| 102 | CREATED Version 1 | 5/21/2018 | BKS |
| | | | |

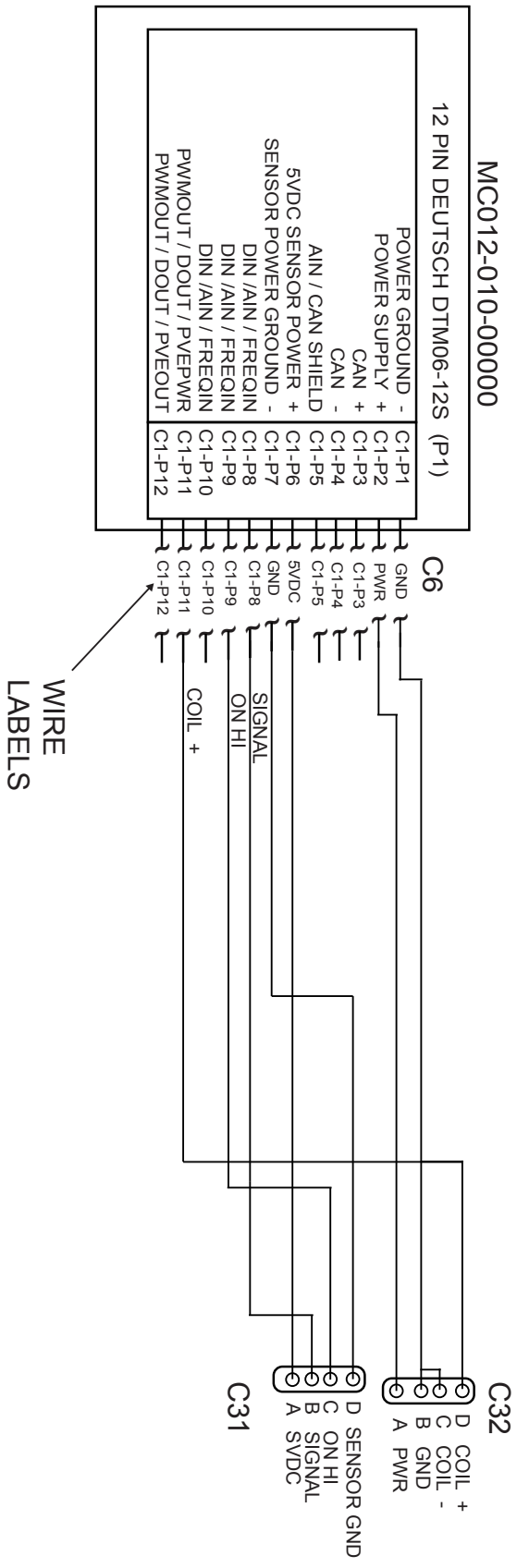
# Electrical Drawings

Appendix

## Wiring Harness



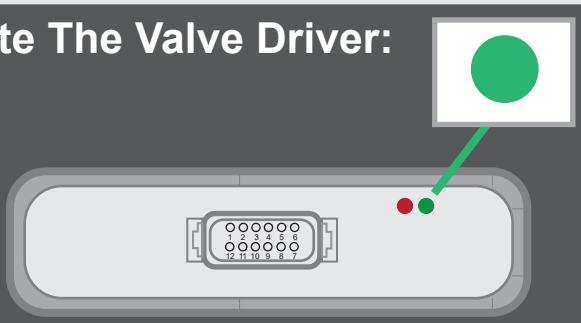
## Wiring Schematic

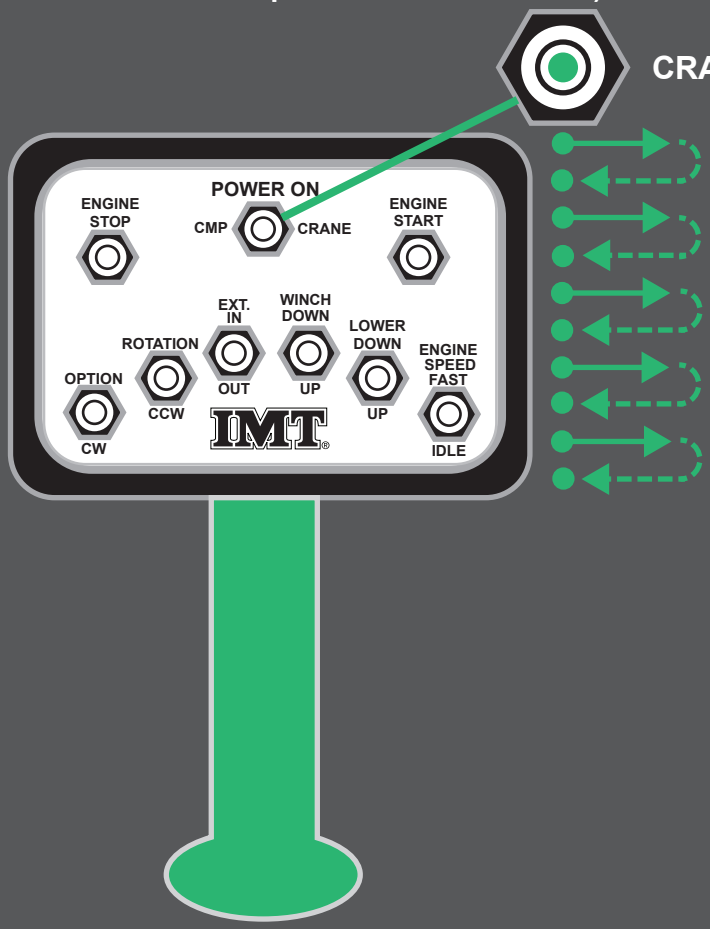


# Quick Guide
# For
# Valve Driver
## IMT Part Number: 77040784

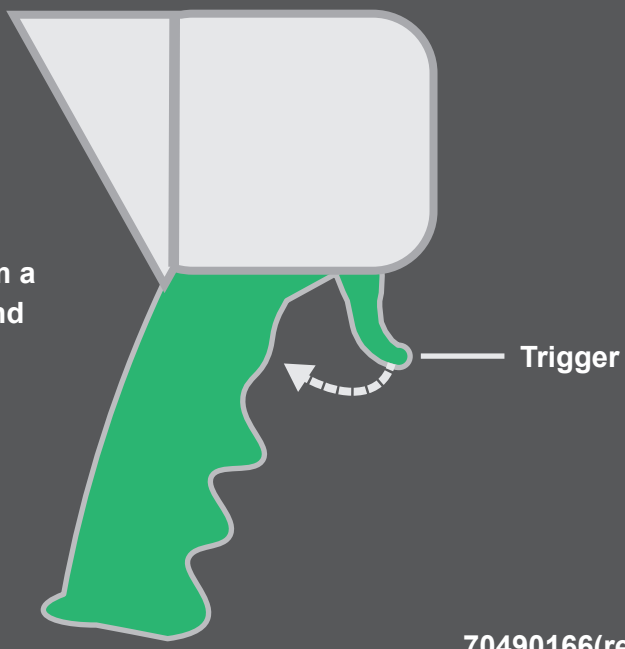
### To Calibrate / Recalibrate The Valve Driver:

**1.** Unplug the Proportional Valve.
Power UP the Crane.
Green LED light will display.
Wait until Red LED has indicated error code 33 (3 short Red blinks, plus 3 short Red blinks).






**2.** On the Tethered Remote Handle Assembly, toggle POWER ON switch (to the right) and back to center 5 times within 5 seconds to start calibration sequence. Leave toggle switch in the OFF (Center) position on the last (5th) sequence.
Wait for red LED light to start slowly blinking.
Pull trigger tightly towards you.




**3.** Hold trigger until the red LED changes from a slow to fast blinking. Release the trigger and shut power off to the crane.
Calibration is completed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