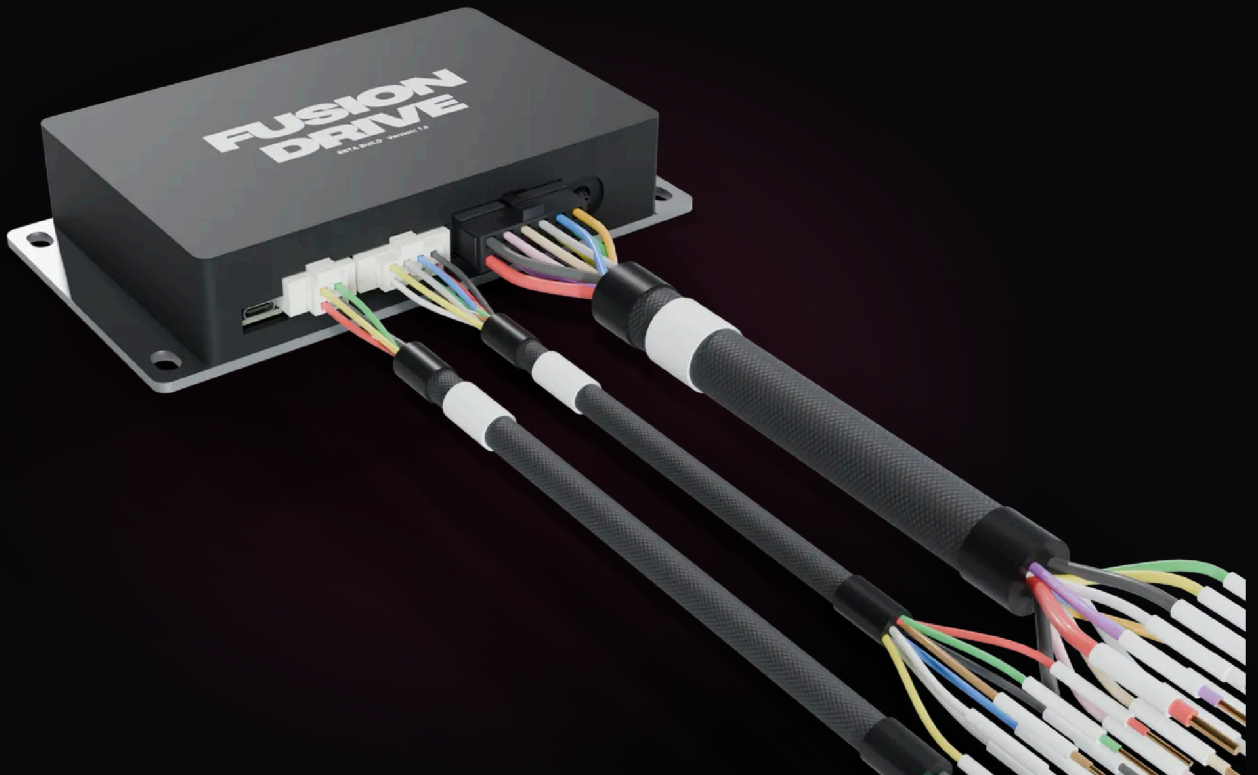




— EXACT-MODEL INSTALLATION GUIDE

Innovate MTX-D 39130 Oil pressure + temperature

Connect this exact accessory to FusionDrive. Wiring diagrams, app setup, logging and a clear assessment of what can be retained or replaced.



Contents

1	Identify the exact dual oil gauge	2
2	Wiring diagrams	3
	W1 · Innovate 39130 retained native loom plus independent FD measurements	
3	Route A · retain 39130 and add FD visibility	8
	Preserve these exact native connections · Before terminating wires	
4	Native settings to preserve	9
5	Configure the independently measured channels in FD	10
6	Route B · remove 39130 after replacing its measurement chain	11
7	Automations and a useful tuner recording	12
8	Commissioning and failure-state acceptance	13
9	Sources and review scope	14

1

— INNOVATE MTX-D 39130 OIL PRESSURE + TEMPERATURE

Identify the exact dual oil gauge

This guide covers **Innovate MTX-D 39130**, the dual oil-pressure and oil-temperature gauge. Its pressure display is specified 0–145 PSI/10 bar and temperature display 120–280°F/49–138°C. It is not the 39040 ethanol gauge: the two products do not share the same logging wires simply because they look similar.



Identification photograph: exact 39130 oil-pressure/temperature gauge from Innovate's official product page; archived image d-16381-245.jpg. The ethanol gauge photograph is not substituted.

This is a researched FD Design LS installation design for local review; physical compatibility has not been bench/vehicle verified. Match the exact model, manual revision and connector orientation before assembly. The drawings show electrical nets, not universal mating-face views.

FD adds shared visibility, local rules and phone logging. It does not alter the stock ECU tune through a logging connection. The ESP stores device settings; phone and portal are views/configurators. Phone recordings and optional cloud backup are separate.

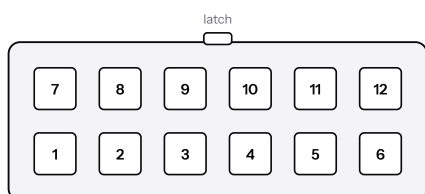
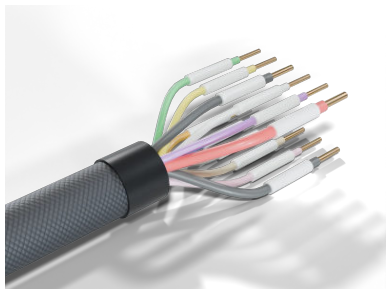
The documented 39130 external data interface is **MTS serial**. Its manual does not expose the 39040's YELLOW/BROWN programmable analogue outputs. The current FD implementation has no native MTS input/decoder. This guide therefore preserves the working gauge and presents honest, electrically separate FD measurement routes; it does not invent a direct cable that is absent from either product.

2

— INNOVATE MTX-D 39130 OIL PRESSURE + TEMPERATURE

Wiring diagrams

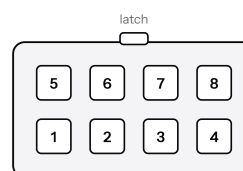
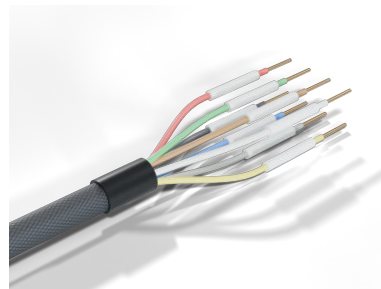
Start here for the actual wire connections. First locate the FD leads, then choose the drawing for the route you are installing.

Harness B • J6 • 12-way

Bottom row, left to right: 1 BATT+ · 2 AUX1 · 3 IGN · 4 GND · 5 CAN2 H · 6 CAN2 L
Top row, left to right: 7 GND · 8 AUX2 · 9 OUT4 · 10 OUT3 · 11 OUT2 · 12 OUT1

Looking into the plug's mating face with the latch at the top

Original FusionDrive harness reference. Look into the plug mating face with the latch at the top. Wire drawings show logical terminal positions.

Harness C • J8 • 8-way

Bottom row, left to right: 1 IN1 · 2 IN2 · 3 IN3 · 4 +5V OUT
Top row, left to right: 5 IN4 · 6 IN5 · 7 IN6 · 8 GND

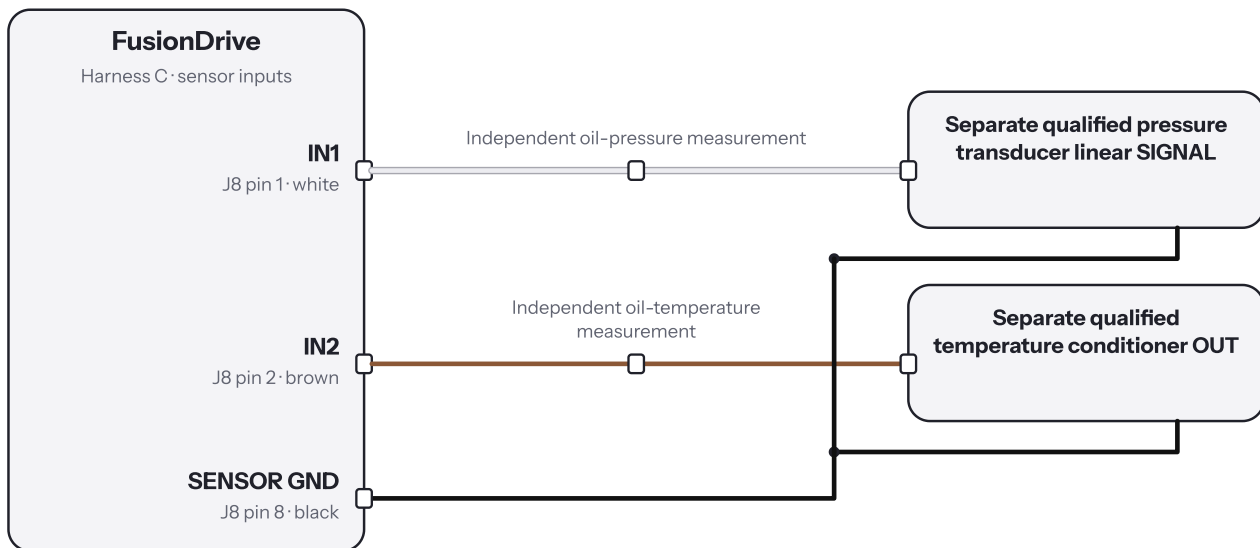
Looking into the plug's mating face with the latch at the top

Original FusionDrive harness reference. Look into the plug mating face with the latch at the top. Wire drawings show logical terminal positions.

Wire colours match the FD flying leads; the accessory segment uses its documented colour where known. A small sleeve marks an insulated splice. Match the lead label and cavity number. Harness B AUX1/AUX2 are low-side ground sinks. OUT1–4 supply positive voltage from the dedicated feed. Harness C inputs accept conditioned 0–5 V signals. Never join competing supplies or output drivers.

1. W1 • Innovate 39130 retained native loom plus independent FD measurements

2.1

W1 • Innovate 39130 retained native loom plus independent FD measurements

Power each sender from its specified supply. Do not connect two 5 V supplies together.

No pump or solenoid current through J8 sensor ground. Calibrate each measurement separately.

Innovate 39130 retained native loom plus independent FD measurements

Terminal-to-terminal wiring schedule

From	To	Signal / electrical condition
Separate qualified pressure transducer linear SIGNAL	FD IN1 / J8 pin 1	Independent oil-pressure measurement bounded 0–5 V
Separate qualified temperature conditioner OUT	FD IN2 / J8 pin 2	Independent oil-temperature measurement bounded 0–5 V
Qualified pressure transducer SIGNAL GROUND	FD sensor ground / J8 pin 8	Pressure measurement reference ground
Qualified temperature conditioner SIGNAL GROUND	FD sensor ground / J8 pin 8	Temperature measurement reference ground

OFF / released: FD absent: native gauge remains; FD-specific measurements unavailable

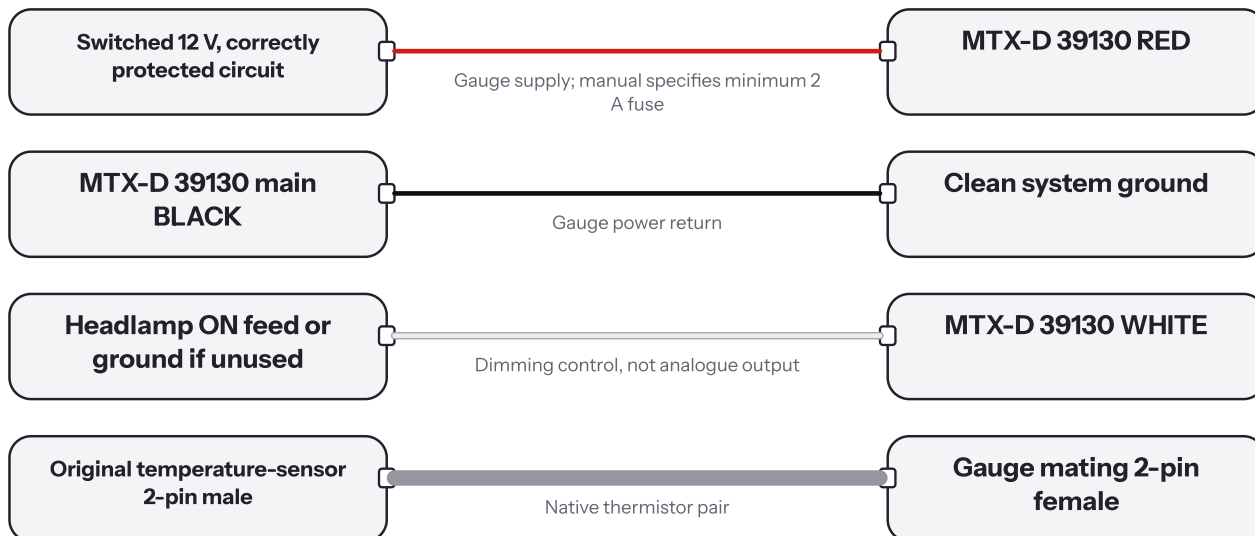
ON / active: FD reads separately qualified sensors; no invented output from MTX-D 39130

Qualification: No direct MTS-to-ADC/CAN wiring. Extra pressure/temp interfaces are functional placeholders until exact parts, pins and curves are documented.

Accessory-side connections - 1

Innovate MTX-D 39130 Oil pressure + temperature · accessory-side connections

Accessory connections for the selected route. Grey bands are complete looms; blue dashes are pressure hoses.



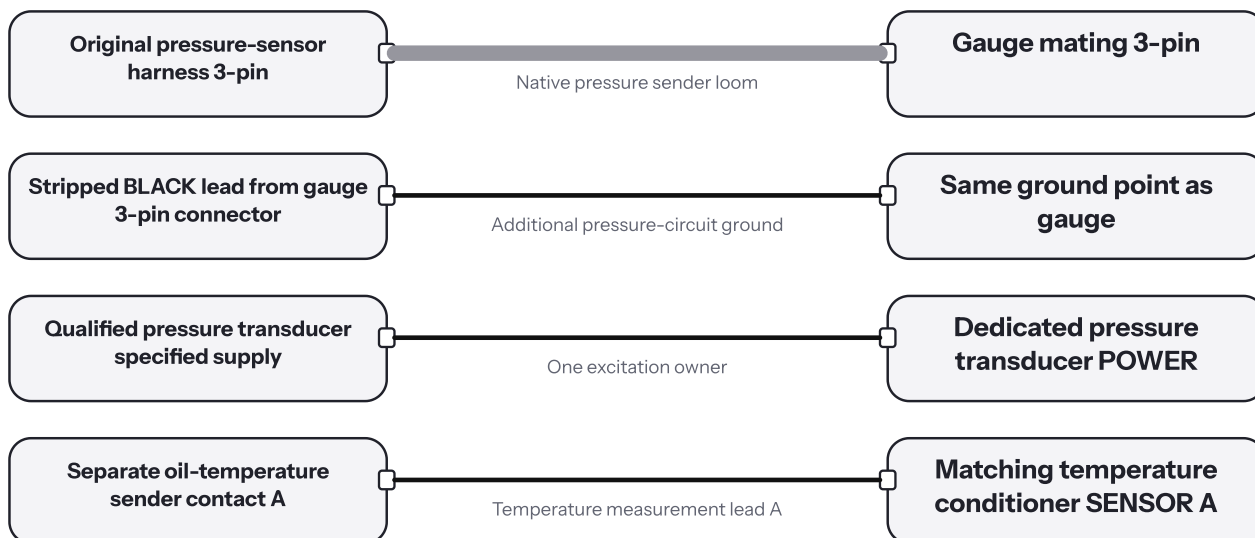
Match the exact harness/revision in the source manual. Unspecified wire colours are drawn black.

Complete the accessory-side circuit for the selected route. Retain or transfer connections as specified in the installation steps; do not join competing supplies or output drivers.

Accessory-side connections - 2

Innovate MTX-D 39130 Oil pressure + temperature · accessory-side connections

Accessory connections for the selected route. Grey bands are complete looms; blue dashes are pressure hoses.



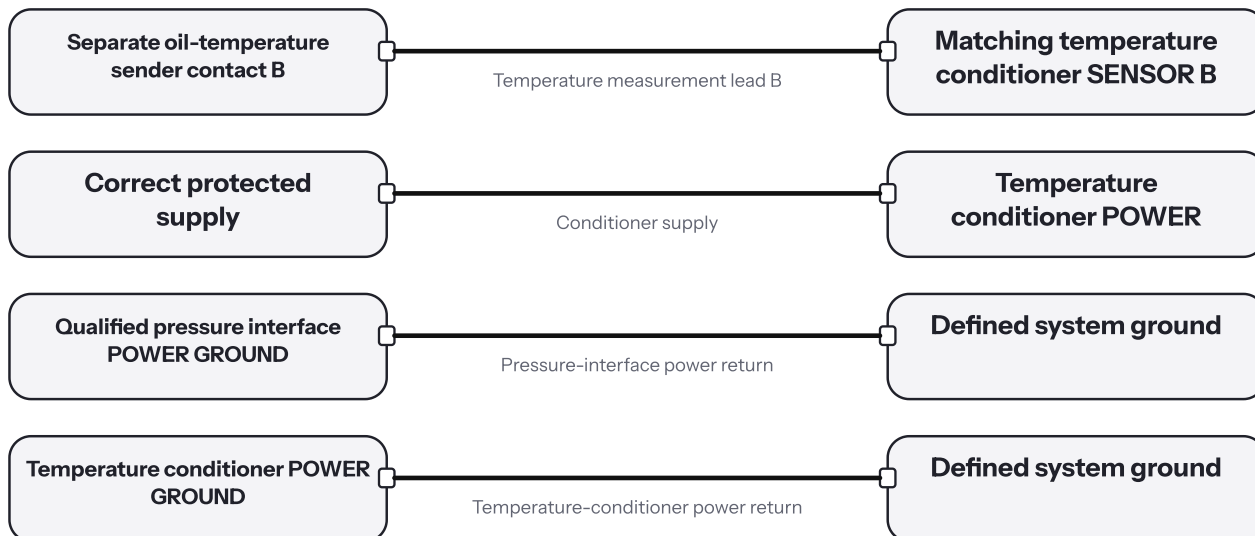
Match the exact harness/revision in the source manual. Unspecified wire colours are drawn black.

Complete the accessory-side circuit for the selected route. Retain or transfer connections as specified in the installation steps; do not join competing supplies or output drivers.

Accessory-side connections - 3

Innovate MTX-D 39130 Oil pressure + temperature · accessory-side connections

Accessory connections for the selected route. Grey bands are complete looms; blue dashes are pressure hoses.



Match the exact harness/revision in the source manual. Unspecified wire colours are drawn black.

Complete the accessory-side circuit for the selected route. Retain or transfer connections as specified in the installation steps; do not join competing supplies or output drivers.

3

— INNOVATE MTX-D 39130 OIL PRESSURE + TEMPERATURE

Route A - retain 39130 and add FD visibility

Retain the native oil-pressure sender, temperature thermistor, warning settings and display. If another installed device already converts these measurements into a documented analogue/CAN signal, qualify that exact bridge and configure FD from its published interface. AnMTS-to-USB programming lead is not such a bridge.

The straightforward independent route is to add a suitable pressure transducer and a conditioned temperature measurement at approved oil-system points. FD can overlay those measurements with OBD, boost and accessory activity while the 39130 keeps its display. Adding another pressure fitting or temperature sensor requires a mechanically sound installation; do not create an unsupported, vibration-loaded stack of adapters.

3.1 Preserve these exact native connections

Connection	Native purpose
RED	Switched 12 V supply; manual specifies a minimum 2 A fuse, with wiring correctly protected
Main BLACK	Gauge power ground on a clean return
WHITE	Headlamp-ON dimming input; ground if unused; never a rheostat dimmer or logging output
Temperature two-pin connector	Original sensor male to gauge female; keep paired loom
Pressure three-pin connector	Original pressure cable to gauge and sender
Stripped BLACK lead at gauge three-pin connector	Same ground point as the gauge, in addition to main BLACK
MTS IN/OUT ports	Innovate serial/programming/logging interface; not FD CAN2 or analogue IN

3.2 Before terminating wires

- 1 Record model, sender, connector orientation, settings and existing receivers. Save a baseline log, verify native warnings and isolate power/loads.
- 2 Reserve the illustrated inputs. J8-8 is sensor ground; J8-4 is 5 V and stays unused unless specified. Never parallel active supplies.
- 3 Preserve power returns. Keep motor/heater current out of sensor ground; insulate, strain-relieve and separate wires from heat/ignition.
- 4 Check unpowered continuity. Meter operating and fault voltages against FD sensor ground before attaching IN.

The manual describes connector functions but does not give an authoritative raw sender voltage transfer, temperature resistance curve or a full cavity reassignment for an FD transplant. Do not back-probe the native sensor harness and assume any plausible voltage is a documented output. A second thermistor pull-up changes the gauge reading, and an added receiver can load a pressure signal. Use separate sensors unless a product-specific buffer/bridge has been properly qualified.

4

— INNOVATE MTX-D 39130 OIL PRESSURE + TEMPERATURE

Native settings to preserve

Use LM Programmer with the documented serial programming cable and suitable adapter. Record the Pressure and Temp settings, chosen display units, low-pressure warning, temperature warning, and exterior LED presentation/range. Save changes with **Program**, then read back. Disconnecting an MTS port while powered is discouraged by the manual; follow its connection procedure.

Native warning settings are useful independent protection while the FD channel is commissioned. A phone display or cloud dashboard does not replace a physical warning when the phone is absent. The oil-pressure sensor's placement must avoid damaging pressure pulsations as described by Innovate; retain a sound original installation rather than moving it merely to shorten a harness.

5

— INNOVATE MTX-D 39130 OIL PRESSURE + TEMPERATURE

Configure the independently measured channels in FD

Current app workflow: Configure this installation from its function in Settings. Controls provides live actions and the Dashboard provides glance controls; use a card's edit menu to return to setup. A configured output remains visible even when disabled. Enabled rules operate their assigned enabled outputs automatically; there is no extra output mode to select. Live Off, On or duty takes over a generic output until you choose Resume automation. Setup keeps the electrical limits, calibration and response settings. Assigned boost, WMI and nitrous outputs use their controller-specific actions, preserving sensor protections and any paired fuel/stage logic. Nitrous Arm allows its configured activation conditions to operate; it is not an unconditional spray command.

Setup and vehicle data: Starting presets remain editable; Add Sensor includes calibration and fine tuning before Create. Use dedicated IGN, fresh running-engine OBD evidence, or both for vehicle activity; a dedicated IGN wire is optional when valid OBD evidence is available. If the pressure hose is unused, explicitly select OBD pressure in setup. A valid atmospheric sensor reading cannot identify a disconnected hose. These app choices do not change the product-specific electrical compatibility or limitations described below.

The schematic's pressure sensor and temperature conditioner are **functional interfaces**, not implied universal parts. First record each exact product, supply, signal/reference terminal and transfer equation. A pressure sensor for this application should cover the expected oil-pressure range and fluid/temperature environment. A bare two-wire temperature sender needs its matching conditioner because FD's present calibration is linear.

For a worked setup only, suppose the selected pressure transducer is specified $0.5-4.5\text{ V}=0-150\text{ PSId}$, and the selected temperature interface is configured $0.5-4.5\text{ V}=0-150^\circ\text{C}$. These are replacement-interface examples, not native 39130 sender specifications. Substitute the actual verified endpoints if different.

- 1 In **Sensors**, tap empty IN1 / J8 pin 1. Choose **0-5 V Generic**, Type **Analog**, name **Oil pressure - independent FD sender**, and Create.
- 2 Edit Unit **psi**, Additional voltage scale **1**, Voltage Range **0.5-4.5 V**, Value Range **0-150** only for the stated verified transducer. Set a useful Display Range and Show on Dashboard.
- 3 Create IN2 / J8 pin 2 as **Oil temperature - conditioned FD sender**. Edit Unit **°C**, scale **1**, Voltage Range **0.5-4.5 V**, Value Range **0-150** only if the conditioner actually implements that output.
- 4 Save each, wait for ESP acknowledgement, refresh and reopen. Use the named empty card to select a slot; the plus button takes the first free slot.
- 5 Check Connector voltage, Current Value and Acquisition age against independent references. Compare with 39130 at steady points, accounting for location, sender tolerances and thermal delay.
- 6 Reboot FD and verify stored settings. Keep controlled loads isolated, test source faults and remove the phone to confirm any local rules behave as intended.



— INNOVATE MTX-D 39130 OIL PRESSURE + TEMPERATURE

Route B - remove 39130 after replacing its measurement chain

To remove the gauge completely, either obtain definitive manufacturer electrical/transfer data for both installed senders and provide the required conditioning, or replace them with the separate qualified interfaces described above. This guide does not authorize using an unidentified native sender directly. Disconnect the old gauge's excitation, signal and reference paths before a new owner supplies a sensor; never parallel two 5 V sources.

After migrating, audit the local display, pressure/temperature warnings, LED range presentation, MTS chain and every other logger/ECU that used the old system. A removed unit may have been in the middle of an MTS chain; preserve that chain according to Innovate's instructions rather than bridging arbitrary contacts. Provide an independently verified no-phone warning where required. Keep the original installation and configuration reversible until the new chain has passed reference and failure tests.



— INNOVATE MTX-D 39130 OIL PRESSURE + TEMPERATURE

Automations and a useful tuner recording

Correlate pressure with oil temperature and RPM rather than judging all operating conditions against one number. Compare a repeated hot operating point with its own baseline. The native 39130 warning remains active while the new FD measurement is qualified; an overlay disagreement is a reason to investigate calibration and location before changing thresholds.

Start with a disabled rule called **Oil pressure - independent FD sender - review threshold** and an isolated indicator or dummy load. Use **ALL conditions (AND)**: the named measurement crosses an installer-approved test threshold, its **Valid** field is ON, and its **Acquisition age** is within a tested limit. For an analogue channel, also qualify **Connector voltage** against the accepted source range. These fields appear under the sensor's configured name. CAN freshness and physical validity are different: repeated frames can contain a failed sensor value.

Use a qualified indicator/interface: AUX1 / J6 pin 2 and AUX2/J6 pin 8 sink current; they do not supply 12 V. For a binary AUX test, start at 0, request 100% when true, and enable **Restore Previous Value When False** only with prior value 0 and one output owner. Do not omit required gates to fit rule limits. Independently test source-loss release and latency.

In **Data Log** settings select **Oil pressure - independent FD sender**, raw voltage and age where exposed, then add oil temperature, RPM, MAP/boost and applicable nitrous/fuel-system requests, relevant controller request/state and automation transitions. Choose active/idle rates and inspect achieved timestamps after leaving the live screen. A source's published update rate is not a promise of that phone recording rate; a 50 Hz request cannot produce new measurements from a 20 Hz source.

Label commands as requests. Record sender location, model, units, calibration and wiring revision. Overlay modification and vehicle traces to investigate events; Cloud/Intelligence can suggest trends, not prove flow or guarantee engine safety from a command.



— INNOVATE MTX-D 39130 OIL PRESSURE + TEMPERATURE

Commissioning and failure-state acceptance

Use isolated loads and an independent reference first. These are required checks, not recorded test results.

Test	Required observation
FD disconnected	Original display, controller and warnings remain correct
Low/middle/high reference stimulus	Calibration matches within agreed tolerance
Source power absent	Missing data does not grant a healthy permission
Signal and reference individually open	Each fault identified; plausible false values documented
Source fault/warm-up	Error is not accepted as a healthy reading
Dummy accessories switching	No ground-noise false trigger
ESP reboot / phone absent	Saved settings return; local actions behave correctly
Logging outside live screen	Achieved timestamps and gaps recorded

An endpoint-clamped analogue value can conceal a failed source. If a required fault is indistinguishable, retain independent native protection or qualify another status source. An unresolved failure state is a hold point.

Record vehicle, FD serial/board, firmware/iOS build, accessory identity/revision, connector photos, occupied IO, calibration, retained/lost functions, test-log files, installer and date. Reconnect accepted loads only, then repeat a controlled functional run. Keep the original configuration and reversal procedure.



— INNOVATE MTX-D 39130 OIL PRESSURE + TEMPERATURE

Sources and review scope

[M1] Innovate MTX-D Oil Temperature/Pressure manual 11-0131B, pp 2–4,6–9.

<https://www.innovatemotorsports.com/wp/content/uploads/2022/05/MTX-D-Oil-Press-Temp.pdf> [P1]

Innovate39130 product identification, Product page. <https://www.innovatemotorsports.com/mtx-d-oil-pressure-temperature.html>

Identification photograph: exact 39130 oil-pressure/temperature gauge from Innovate's official product page; archived image d-16381-245.jpg. The ethanol gauge photograph is not substituted.

FD implementation checked against HardwareMap.swift, SensorsView.swift, SensorManager.swift, CANBusConfigurationView.swift, CANDecodeEditorView.swift, AutomationEditorView.swift and DataLog/LogSettingsView.swift in the local FD project. Electrical interfaces and native operating facts above come from the named manufacturer sources. Any extra interface remains conditional until its actual part, wiring, range and fault behaviour are recorded and tested. No live website publication or physical compatibility certification is implied.



Questions?

Documentation · fusiondrive.io/docs

Support · in the app: [More](#) → [Settings](#) → [Device & firmware](#) → [Report an Issue](#)

Review library · [Local FD V3](#) / [accessory-integration](#) / [model-guides](#)

FusionDrive switches real current to real loads and can control boost, water/methanol injection and nitrous. Fuse every feed and every load, respect the ratings in the specifications, and set failsafes before you drive. Configure and tune with the vehicle stationary. The installer is responsible for compliance with local vehicle regulations. Independent local review draft. Exact-model electrical compatibility and the commissioning tests in this guide have not received physical sign-off. Product photographs and manufacturer names identify equipment only; no manufacturer endorsement is implied. Follow the matching original manual and the qualification requirements for each proposed interface. No universal replacement or load-rating approval is given.