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Perfect Tuning MaxxECU Mini – 8HP Controller Harness

Customer satisfaction is our top priority. If you have any questions, suggestions, or issues, contact us at **support@perfecttuning.net** or on Facebook.

MaxxECU Mini 8HP Controller Harness

The Perfect Tuning Universal 8HP Harness included with the MaxxECU Mini is an excellent solution for controlling the 8-speed ZF 8HP45/70/90 transmissions.

Before proceeding, ensure your transmission is supported by checking:
https://www.maxxecu.com/webhelp/advanced-8hp-hardware_identifier.html

The MaxxECU Controller supports the following features:

- Transbrake control

- Launch mode (similar to a clutch drop on a manual car; a good alternative to the transbrake when using the stock torque converter, which is too tight and does not allow enough slip)

- Shift cut

- Throttle blip during downshift

- Multiple-gear downshift (work in progress)

- Virtual clutch control (0–100%)

- Clutch kick

- Automatic mode

- Manual-only mode, with or without auto upshift at redline

- Downshift prevention (useful for drifting with a handbrake)

Requirements

Below is what you need to control an 8HP transmission with the MaxxECU Mini. The MaxxECU is highly flexible, and many configurations are possible. If you have specific needs, contact us for assistance.

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- A compatible transmission:
  https://www.maxxecu.com/webhelp/advanced-8hp-hardware_identifier.html

- The transmission must be flashed. A special tool is required. We offer tool rental with a deposit:
  https://www.maxxecu.com/store/gearbox/tools/yanhua-acdp-2-8hpxx-tcu-tool-package
  If MaxxECU releases a new transmission firmware version, the flash tool will be required again.
  If new features or bug fixes are added in MaxxECU **MTune**, no reflash is required.

- Minimum required signals:

  - Brake switch

  - Throttle position sensor

  - RPM

  - Manifold pressure sensor (optional)

  - Shifter signals (BMW, Dodge, Sequential, Analog, or CAN Bus)

  These signals may be analog or transmitted over CAN Bus or OBD2, as long as CAN Bus speed is 500 kbps.
  You may request some data via CAN and others through direct inputs. All combinations are possible.

Compatible Shifters

Refer to:
https://www.maxxecu.com/webhelp/advanced-8hp-shifter.html

At the time of writing, the following are supported: Dodge, BMW F-Series, Sequential, Analog, and CAN Keypad shifters.

Connectors

The Perfect Tuning MaxxECU Mini harness includes a DTM-12 connector for easy integration with any vehicle.

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DTM-12 Pinout

Pin	MaxxECU Name	Function
1	12V Switch	12V ignition (5A fuse)
2	Power Ground	Ground
3	12V Battery	Constant 12V (10A fuse)
4	Sensor Ground	Ground for analog sensors only (do not connect to chassis ground)
5	GPO2	Ground output (default: shift-cut). Can be reassigned.
6	GPO3	Ground output (default: launch/antilag activation). Can be reassigned.
7	Trigger	RPM/crank signal (VR, Hall, 12V pulse, or CAN Bus)
8	TPS	0–5V throttle position input (or CAN Bus)
9	AIN 3	Analog input (default: brake switch, 12V tolerant)
10	AIN 4	Generic analog input
11	N/A	Reverse light output (relay)
12	N/A	Reverse light 12V input (recommended to use OEM reverse-light feed for OEM fuse protection)

CAN Bus Connector

Pin	Function
1	CAN High (120 Ω termination required if unused)
2	CAN Low (120 Ω termination required if unused)

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Shifter Connector

Pin	Function
1	Switched 12V output for shifter
2	Ground
3	5V output (for Perfect Tuning Sequential Shifter)
4	CLT input (unused; may be used for handbrake input, not officially supported)
5	DIN 1 – Upshift input
6	DIN 2 – Downshift input
7	CAN Low
8	CAN High

Base Tune

The provided base tune must be adjusted to your specific setup. We offer remote tuning services if needed.

CAN Bus Integration

The MaxxECU offers flexible CAN Bus configuration.
The transmission and shifter operate at **500 kbps**, so all devices on the network must use this speed.

The MaxxECU is compatible with all documented aftermarket ECUs and any OEM ECU supporting OBD2.

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Troubleshooting

If you experience configuration issues or have questions, contact us. Remote tuning sessions are available for setup and integration assistance.