

GM HUD Functionality vs. '88 Fiero Signals Available

Function	2 nd Generation HUD ('91- '96 Bonneville)	3 rd Generation HUD ('94- '96 Grand Prix)	'88 Fiero V6
Vehicle Speed	Yes	Yes	Yes
Left Turn Indicator	Yes	Yes	Yes
Right Turn Indicator	Yes	Yes	Yes
High Beam Indicator	Yes	Yes	Yes
Oil Pressure Warning	No	Yes	Yes ^[1]
Coolant Temperature Warning	No	Yes	Yes
Alternator Advisory	No	Yes	Yes
Low Fuel Advisory	Yes	Yes	No ^[2]
Check Gauges ^[3]	Yes	No	No
Display Tilt	Manual Cable	Electric Motor	---

[1] Oil Pressure Warning is internal to the auxiliary “rally” gauge cluster and the logic sense will probably need to be inverted for use with the HUD.

[2] Can be implemented, but the Fiero will require external electronic circuitry.

[3] Combines Oil Pressure Warning, Alternator Advisory, and/or Coolant Temperature Warning into a single “Check Gauges” advisory. This is not the same as the Fiero’s “Check Engine Soon” light.

GM 3rd Generation HUD Connector Pinouts and Signal Characteristics

HUD Pin Number	Connects to Dimmer Pin Number	Function	HUD Signal Characteristics (Low => Ground, High => +12 volts)
A1	F	Power	+12 volts at ~250 ma
A2	---	Night Dimming (Parking Lamps On)	Active High
A3	---	(Not Used)	N/C
A4	---	Vehicle Speed (VSS)	Active Low Pulse (4000 ppm, TTL?)
A5	---	Oil Pressure Warning	Active Low
A6	---	Low Fuel Advisory	Active Low
A7	---	Left Turn Signal Indicator	Active High
A8	G	Signal/Power Ground	Chassis Ground
B1	E	HUD Tilt Up	High to Tilt Up, else keep Low
B2	H	HUD Tilt Down	High to Tilt Down. else keep Low
B3	---	English/Metric Display	Low => Metric, else N/C => English
B4	---	Alternator Advisory	Active Low
B5	---	Coolant Temperature Warning	Active Low
B6	---	High Beam Indicator	Active High
B7	---	Right Turn Signal Indicator	Active High
B8	C	Display Dimmer	Variable, 0 v (dim) -> +12 v (bright)

GM 3rd Generation Dimmer Connector Pinouts and Signal Characteristics

Dimmer Pin Number	Connects to HUD Pin Number	Function	Signal Characteristics (Low => Ground, High => +12 volts)
A	---	Power In	+12 volts (hot in run, bulb test, or start)
B	---	Panel Lamp	Interior Lamps Dimmer Circuit
C	B8	Display Dimmer	Variable, 0 v (dim) -> +12 v (bright)
D	---	(Not Used)	N/C
E	B1	HUD Tilt Up	High to Tilt Up, else keep Low
F	A1	Power Out (Switched)	+12 volts at ~250 ma
G	A8	Signal/Power Ground	Chassis Ground
H	B2	HUD Tilt Down	High to Tilt Down. else keep Low

GM 3rd Generation HUD Connector Part Numbers

Quantity	GM/Delphi Part Number	Description	Comments	Available from ^[1] (March 2009)
1	12084944 12110259 ^[2] 12084945 ^[2]	Housing	Black Green Gray	GM Parts Direct Mouser Mouser
1	12048433	TPA ^[3] -A	w/ Latch	Mouser
1	12048345	TPA ^[3] -B	w/o Latch	Mouser
15	12146447 12146448	Female Terminal	0.50-0.35 mm (20-22 AWG) 1.00-0.80 mm (16-18 AWG)	Mouser

GM 3rd Generation Dimmer Connector Part Numbers

Quantity	GM/Delphi Part Number	Description	Comments	Available from ^[1] (March 2009)
1	12064766	Housing	Blue, w/ Latch	Mouser
2	12064768	TPA ^[3]		Mouser
1	12052834	CPA ^[3]	(optional)	Mouser
7	12064971 12047767	Female Terminal	0.50-0.35 mm (20-22 AWG) 1.00-0.80 mm (16-18 AWG)	Mouser

[1] GM Parts Direct: www.gmpartsdirect.com
Mouser Electronics: www.mouser.com

[2] Delphi housing part numbers **12110259** (green) and **12084945** (gray) may be used, but they require slight modification due to their different "Indexing Features." Modification takes about 60 seconds with a hand rasp.

[3] TPA: "Terminal Position Assurance" (i.e. terminal retention feature)
CPA: "Connector Position Assurance" (i.e. connector retention feature)