TBI Fuel Injection ECM Connector Identification

This document reproduces the data from a 1990s Chevrolet TBI (Throttle Body Injection) ECM/PCM wiring and voltage-reference chart exactly as shown in the provided image. All tables, pin designations, wire colors, circuit names, voltage references, and footnotes are included below for completeness.

Overview Text From Original Diagram

“This ECM voltage chart is for use with a digital voltmeter to further aid in diagnosis. The voltages you get may vary due to low battery charge or other reasons, but they should be very close.

THE FOLLOWING CONDITIONS MUST BE MET BEFORE TESTING:
• Engine at operating temperature
• Engine idling (for “Engine Run” column)
• Diagnostic terminal not grounded
• ALDL tool not installed”

24-Pin A–B Connector and 32-Pin C–D Connector (Back Views)

Below are two main tables. The first section (A–B) corresponds to a 24-pin connector split into A1–A12 and B1–B12. The second section (C–D) corresponds to a 32-pin connector split into C1–C16 and D1–D16. Voltages are shown for “Key On” and “Engine Run” as given in the original chart.

A-Side Pins (24-Pin Connector, Rows A1–A12)

Voltage				
Key “On”	**Eng “Run”**	**Circuit**	**Pin**	**Wire Color**
0	14	Fuel Pump Relay	A1	OK GRN/WHT
–	–	Not used	A2	–
–	–	Not used	A3	–
12	14	EGR Control	A4	GRY
0	14	“Service Engine Soon” Control	A5	BRN/WHT
12	14	IGN – ECM Fuse SHIFT LIGHT or ECC CONTROL	A6	PNK/BLK
12	14	Shift Light or TCC Control	A7	TAN/BLK
2–5	2.5	Serial Data	A8	ORN
5	5	Diagnostic Terminal	A9	WHT/BLK
(1)	(1)	Speed Sensor Signal	A10	BRN
0	0	Sensor Ground	A11	PPL OR BLK
0	0	System Ground	A12	BLK/WHT

> **Note**: Where “–” is shown, the chart in the image did not list any voltage or data.
> “(Footnote 7?)” indicates a possible footnote reference in the original scan; actual voltage was not fully visible.
> “(1)” references footnote 1 regarding a speed-sensor–dependent voltage.

B-Side Pins (24-Pin Connector, Rows B1–B12)

Wire Color	Pin	Circuit	Key “On”	Eng “Run”

Wire Color	Pin	Circuit	Key “On”	Eng “Run”
ORN	B1	BATT. 12 Volts	12	14
TAN/WHT	B2	Fuel Pump Signal	0	14
BLK/RED	B3	EST Reflow	0	0
–	B4	Not used	–	–
PPL/WHT	B5	EST Reference Hi	0	1.8
–	B6	Not used	–	–
BLK	B7	ESC Signal	9	9
DK GRN	B8	A/C Signal	0	0
–	B9	Not used	–	–
ORN/BLK	B10	Park/Neutral SW Signal	0	8?
–	B11	Not used	–	–
–	B12	Not used	–	–

C-Side Pins (32-Pin Connector, Rows C1–C16)

Voltage				
Key “On”	Eng “Run”	Circuit	Pin	Wire Color
0	–	Not used	C1	–
12	14	“EAC Sol” (exact text uncertain)	C2	BRN
–	–	NOT USEABLE IAC “A” LO	C3	LT GRN /BLK
–	–	NOT USEABLE IAC “B” HI	C4	LT GRN /WHT
–	–	NOT USEABLE IAC “A” HI	C5	LT BLU /WHT
–	–	NOT USEABLE IAC “A” LO	C6	LT BLU /BLK
12	14	Hi Gear Switch	C7	LT BLU
–	–	Not used	C8	–
0	0	Crank Signal	C9	PPL/WHT
1.9	1.7	Coolant Temp. Signal	C10	YEL
4.9	2.8	MAP Signal	C11	LT GRN
–	–	Not used	C12	–
0.6	0.6	TPS Signal	C13	DK BLU
5.0	5	5 Volt Reference	C14	GRY
–	–	Not used	C15	–
12	14	Battery 12 Volts	C16	ORN

D-Side Pins (32-Pin Connector, Rows D1–D16)

Wire Color	Pin	Circuit	Key "On"	Eng "Run"
BLK/WHT	D1	System Ground	0	0
BLK/RED PPL/BLK	D2	Sensor Ground	0	0
–	D3	Not used	–	–
WHT	D4	EST Control	0	1.0
TAN/BLK	D5	EST Bypass	0	4.76
TAN	D6	GND (O_2)	0	–
PPL	D7	O_2 Sensor Signal	0	(3)
–	D8	Not used	–	–
–	D9	Not used	–	–
–	D10	Not used	–	–
–	D11	Not used	–	–
–	D12	Not used	–	–
–	D13	Not used	–	–
LT GRN	D14	Injector B	12	14
–	D15	Not used	–	–
BLU	D16	Injector A	12	14

Footnotes (As Listed on Chart)

1. Varies from 0.60 V to battery voltage depending on the position of drive wheels.
2. Varies with temperature.
3. 12v first two seconds on 4.3 L & 5.0 L (12 V first 20 seconds on 5.7 L & 7.4 L).
4. Measured between terminals C13 and A11 +/- 0.05 V.
5. Used on 4.3L, 5.0L or 5.7 L engine. Wire color may also be yel/black or yellow/red.
6. Auto downshift control on THM 400 (some models).
7. Refer to wiring diagram for terminals A11 or D2 for sensor ground.

(Additional minor notes on the chart mention that voltage readings may differ slightly by model, or depending on battery charge.)

Additional Notes

• Some rows on the original chart are labeled "Not used" or "Not useable," particularly for certain IAC (Idle Air Control) lines that do not apply to all TBI variants.
• The "Hi Gear Switch," "Crank Signal," and "Coolant Temp. Signal" entries may vary by application.
• The acronym "EST" stands for Electronic Spark Timing, "ESC" for Electronic Spark Control.
• "Service Engine Soon" lamp control is also sometimes called the MIL (Malfunction Indicator Lamp).
• A11 and/or D2 often serve as sensor grounds—consult the exact wiring diagram for your specific application.

Compiled from original "TBI FUEL INJECTION ECM CONNECTOR IDENTIFICATION" chart (1990s Chevrolet TBI). All data above is transcribed as faithfully as possible from the provided image.