

Dedicated Harness:

**09X205**

<b>SOLENOID TEST: (Engine off)</b>				
Solenoid	TranX Setting	Output Channel	Current Cold-Hot	Resistance Cold-Hot
Solenoid 1 (MV1)	Gear 1	1	0.6 - 0.3	30 - 34 Ω
Solenoid 2 (MV2)	Gear 2	2	0.6 - 0.3	30 - 34 Ω
Solenoid 3 (MV3)	Gear 3	3	0.6 - 0.3	30 - 34 Ω
EDS-3	Gear 4	4	1.0 - 0.8	4.0 - 5.0 Ω
Lockup (EDS-4)	Gear 5	5	1.0 - 0.8	4.0 - 5.0 Ω
EDS-5	Gear 6	6	1.0 - 0.8	4.0 - 5.0 Ω
EPC (EDS-1) (pulsed)	Gear 7	7	1.3 - 0.8 (@ 50% duty)	5.2 - 6.8 Ω
EDS-2	Gear 8	8	1.0 - 0.8	4.0 - 5.0 Ω

**NOTE:**

Solenoids EDS-2, EDS-3 and EDS-5 pulsed at 50% Duty cycle.  
Resistance measured in Solenoid Test will read 2x actual resistance.

**CAUTION:**

Always come to a COMPLETE STOP & TURN ENGINE OFF before changing test modes

<b>SHIFT/MONITOR TEST</b>								
GEAR	Solenoid 1 (MV1)	Solenoid 2 (MV2)	Solenoid 3 (MV3)	EDS-3 (Pulsed)	EDS-5 (Pulsed)	EDS-2 (Pulsed)	Lockup (EDS-4)	EPC (EDS-1) (pulsed)
<b>(Function 1)</b>								
1st	ON	OFF	OFF	ON	OFF	OFF	OFF	Select Duty
2nd	ON	ON	OFF	ON	ON	OFF	ON/OFF	Select Duty
3rd	OFF	ON	OFF	ON	OFF	ON	ON/OFF	Select Duty
4th	OFF	ON	OFF	OFF	OFF	OFF	ON/OFF	Select Duty
5th	OFF	OFF	OFF	OFF	OFF	ON	ON/OFF	Select Duty

**Notes:**

- ◆ MV3 on in Park/Neutral, also used to inhibit reverse engagement.
- ◆ **Lock Up** is normally activated in 4th and 5th Gears.
- ◆ Polarity = Common **Positive**

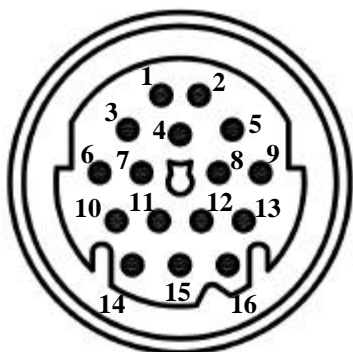
Transmission: **BMW 5HP24**

**SENSOR TESTS :**

The Transmission Temperature Sensor, Input Speed Sensor and Output Speed Sensor located in the transmission and can be monitored on the Sensor Module. Compare against the readings specified in the following tables.

**CONNECTOR:**

(Looking into harness connector)



TOT Sensor Test	
Connect Multimeter to Sensor Module Test Points 7 & 8	
Resistance	Temperature
1000 Ω	72° F
Turbine Speed Sensor Test	
Connect Multimeter to Sensor Module Test Points 5 & 6	
Resistance	Comments
292 - 358Ω	Ignition Off
Output Speed Sensor Test	
Connect Multimeter to Sensor Module Test Points 3 & 4	
Resistance	Comments
292 - 358Ω	Ignition Off

**COMMENTS :**

The Temperature Sensor is a thermistor, which changes resistance in relation to the temperature of the transmission fluid. As fluid temperature increases, thermistor resistance decreases.

**COMMENTS :**

The Speed Sensor is Inductive - Dynamic tests can be made using a Multimeter measuring either Voltage AC or Frequency AC

An AC Voltage and frequency will be produced by the sensor, informing the transmission ECU the output speed.

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An AC Voltage and frequency will be produced by the sensor, informing the transmission ECU the turbine speed.

**NOTE :**

RESISTANCE MEASUREMENT'S MUST BE MADE WITH IGNITION OFF. IT MAY ALSO BE NECESSARY TO DISCONNECT THE ECU HARNESS IN SOME CASES.

Wiring Chart				
Case Connector Pin Number	TranX 2000 Harness Wire	Vehicle Function	TranX 2000 Output Location	TranX 2000 25 Way Pin
1	Green/White	Turbine Speed Sensor	Sensor 5 Test Point	19
2	Yellow	EPC Solenoid (EDS-1)	Channel 7	1
3	Grey	EDS-2 Solenoid	Channel 8	2
4	Pink	MV 3 Solenoid	Channel 3	5
5	Orange	Output Speed Sensor	Sensor 4 Test Point	18
6	White	Output Speed Sensor	Sensor 3 Test Point	17
7	Brown	EDS-3 Solenoid	Channel 6	6
8	Blue	MV 1 Solenoid	Channel 1	7
9	Green	MV 2 Solenoid	Channel 2	8
10	Black	Turbine Speed Sensor	Sensor 6 Test Point	20
11	Violet	Lockup Solenoid (EDS-4)	Channel 5	3
12	Red	+12V Solenoid Power		12
13	White/Green	TOT Sensor	Sensor 7 Test Point	21
14	White/Violet	TOT Sensor Return	Sensor 8 Test Point	22
15	Yellow/White	EDS-5	Channel 6	4
16	Red/Brown	+12V Solenoid Power		13