X17 (Brown)
6-pin (24-pin Connector Slot)
X17 Connector – Rear of A2w instrument cluster, Next to X16

Pin	Type	Description	Connection	Signal Type	Pin (High)	Use-case	Wire Color
Pin 1	M	Ground	Ground Connection	GND			Orange-Gray
Pin 2	E	Diagnosis RxD	Diagnostic socket - Pin 15	Square-wave			White-Yellow
Pin 3	E	Fuse, Terminal R, Accessories Wire (ACC), +12V	+12V via Power Supply	+12V (B+)		Positive Terminal	Orange-Purple
Pin 4	M	Terminal 31, Ground	Ground Connection	GND			Orange
Pin 5	A	Diagnosis TxD	Diagnostic socket - Pin 20	Square-wave			White
Pin 6	E	Terminal R, Accessories Wire (ACC), +12V	+12V via Power Supply	+12V (B+)		Positive Terminal	Orange-Purple

X16 (Biege)
26-pin
X16 Connector – Rear of A2w instrument cluster

Pin	Type	Description	Connection	Signal Type	Pin (High)	Use-case
Pin 1	E	Control Light Airbag	Airbag diagnostic module	B-		Airbag indicator lamp
Pin 2	E/A	Data link to CCM, CLK CCM (Data)	CCM X18, Pin 13	Square-wave 0-5V		Serial Clock Output
Pin 3	E/A	**Data link to CCM, BC and LKM/LAC**	**CCM X18, Pin 25 and BC, LKM**	**Square-wave 0-5V**		**Load data to parallel register**
Pin 4	E/A	Data link to CCM	CCM X18, Pin 9	Square-wave 0-5V		Enable voltage reference
Pin 5	E	Warning Light - Battery Charge Indicator, Terminal 61	Alternator	B+		
Pin 6	E	Warning Light - Oil Pressure Switch	Pressure Switch	B-		
Pin 7	E	Fuse, Terminal 15, Accessories Wire (ACC), +12V	+12V via Power Supply	+12V		Positive Terminal, Run-Start Mode, Control Terminal 15
Pin 8	E	ASC Indicator Light	ASC Control Unit	B-		
Pin 9	E	Oil Temperature (M5)	Temperature Sensor	0-12V		Temperature Ranges (Only E34/M5)
Pin 10	A	Warning Light - Foot Brake, Rear	Connection 1, Rear Brake Sensor	Ground		Break Pad warning, Front and rear sensors are interconnected
Pin 11	E	Trailer Turn Signal Indicator Light	Relay	B+		
Pin 12	E	Fuse, Terminal 30, Accessories Wire (ACC), +12V	+12V via Power Supply	+12V		Positive Terminal, Terminal 30
Pin 13	E	Fuse, Terminal 30, Accessories Wire (ACC), +12V	+12V via Power Supply	+12V		Positive Terminal, Terminal 30
Pin 14	E	Brake Pressure	Pressure Switch	B-		(Only E34 w/ H31 Brake System)
Pin 15	E	Warning Light - Brake Fluid Level	Level Switch	B-		
Pin 16	E	SIA Reset	Diagnostic socket - Pin 7	B-		at B-SIA Reset
Pin 17	E	TI Injection Signal from DME	DME Control Unit	Square-wave		
Pin 18	E	TD Signal from DME, Speed Signal	DME Control Unit	Square-wave		Engine speed value
Pin 19	E	TI Signal 2 from DME II	DME II Control Unit	Square-wave		Line connected as of model year 1990
Pin 20	E	Warning Light - ABS Indicator	ABS Control Unit	B-		
Pin 21	E	Terminal R for Airbag Indicator Lamp	Ignition Switch, +12V via Power Supply	+12V		Positive Terminal, Accessory Mode, Airbag, Terminal R
Pin 22	E	Main Headlights/Beam Indicator	Light Switch	+12V (B+)		
Pin 23	E/A	**Data link DAC to CCM and BC, DAC CCM DATA / BC**	**CCM X18, Pin 7**	**Square-wave 0-5V**		***Send UART data here to display it in LCD***
Pin 24	A	Coolant Temperature Sensor Ground	Temperature Sensor			Temperature Range
Pin 25	E	Warning Light - Foot Brake, Front	Connection 2, Front Brake Sensor	appx. 12V		Break Pad warning, Front and rear sensors are interconnected
Pin 26	E	Coolant Temperature Input	Temperature Sensor	0-12V		Temperature Range

X271 (Gray)
12-pin
X271 Connector – Rear of A2w instrument cluster, next to X502

Pin	Type	Description	Connection	Signal Type	Pin (High)	Use-case
Pin 1	N/A	NOT_USED	NOT_USED	NOT_USED	NOT_USED	NOT_USED
Pin 2	E	Fuel Tank Indicator (Reserve/Running Low)	Tank Sensor	B-		Fuel Level Warning Signal
Pin 3	N/A	NOT_USED	NOT_USED	NOT_USED	NOT_USED	NOT_USED
Pin 4	E	Fuel Tank Contents	Tank Sensor	0-12V		Fuel Level
Pin 5	N/A	NOT_USED	NOT_USED	NOT_USED	NOT_USED	NOT_USED
Pin 6	N/A	NOT_USED	NOT_USED	NOT_USED	NOT_USED	NOT_USED
Pin 7	E	Warning Light - Handbrake	Handbrake Switch	B-		Park Brake Indicator Control
Pin 8	E	Vehicle Speed Input (+), Tachometer, Terminal 31	Tachogenerator	Square-wave 0-12V		Tachogenerator Input, Vehicle Speed, To Signal Generator PWM Pin
Pin 9	A	Position Pulse DWA		Square-wave 0-12V		
Pin 10	A	Vehicle Speed Input (-), Tachometer, Terminal 31	Tachogenerator	B-		Tachogenerator Ground, Vehicle Speed, To Signal Generator GND Pin
Pin 11	N/A	NOT_USED	NOT_USED	NOT_USED	NOT_USED	NOT_USED
Pin 12	N/A	NOT_USED	NOT_USED	NOT_USED	NOT_USED	NOT_USED

X502 (White)
26-pin
X502 Connector – Rear of A2w instrument cluster, next to X271

Pin	Type	Description	Connection	Signal Type	Pin (High)	Use-case
Pin 1	E	Fog Lights Indicator Lamp	Fog Light Switch	B+		Front Fog Lights
Pin 2	A	Output for gong signal, Sound Tone Signal (Gong)	Acoustic Generator	B-		Gong
Pin 3	E	Check Engine Lamp	DME Control Unit	B-		DME
Pin 4	E	Gear Display (Automatic Only)	Selector Lever	B+		
Pin 5	E	Gear Display (Automatic Only)	Selector Lever	B+		
Pin 6	E	Gear Display (Automatic Only)	Selector Lever	B+		
Pin 7	N/A	NOT_USED	NOT_USED	NOT_USED	NOT_USED	NOT_USED
Pin 8	E	EGS Program Indicator	EGS Control Unit	B-		
Pin 9	E	EGS Program Indicator	EGS Control Unit	B-		
Pin 10	N/A	NOT_USED	NOT_USED	NOT_USED	NOT_USED	NOT_USED
Pin 11	E	Gear Display (Automatic Only)	Selector Lever	B+		
Pin 12	N/A	NOT_USED	NOT_USED	NOT_USED	NOT_USED	NOT_USED
Pin 13	N/A	NOT_USED	NOT_USED	NOT_USED	NOT_USED	NOT_USED
Pin 14	E	Instrument Light, Terminal 58G	+12V Positive Terminal, or Dimmer	Pulses		Instrument Illumination Power
Pin 15	E	Rear Fog Lights Indicator Lamp	Fog Light Switch	B+		Rear Fog Lights
Pin 16	E	EML Indicator Lamp	EML Control Unit	B-		
Pin 17	E	EML Indicator Lamp	EML Control Unit	B-		
Pin 18	A	Output Speed, Vehicle Speed Signal Output, Tacho A Signal	Various Control Units	Square-wave		
Pin 19	N/A	NOT_USED	NOT_USED	NOT_USED	NOT_USED	NOT_USED
Pin 20		Terminal 61, Auxiliary Alternator	Auxiliary Altenrator	B+		Software v0.90 only
Pin 21	N/A	NOT_USED	NOT_USED	NOT_USED	NOT_USED	NOT_USED
Pin 22	N/A	NOT_USED	NOT_USED	NOT_USED	NOT_USED	NOT_USED
Pin 23	A	CC Button for BC Displays	BC, Pin 14	B-		B- clears BC display in instrument cluster display
Pin 24	N/A	NOT_USED	NOT_USED	NOT_USED	NOT_USED	NOT_USED
Pin 25	E	Indicator Light - Left Turn Indicator	Relay	B+		
Pin 26	E	Indicator Light - Right Turn Indicator	Relay	B+		

Pin Types

TYPE	DESCRIPTION
E	Input
A	Output
M	Ground

Abbreviation

Symbol	Description
ABS	Assisted Breaking System
SIA	Service Lights Indicator
TI	Injection Signal
TD	Engine Speed Signal
CC	Check-Control
CCM	Check-Control Module
LKM	Lamp Control Module
AHM	Trailer Module
ASC	Automatic Stability Control
EGS	Electronic Transmission Control
K	Instrument Cluster
KVA	Fuel Consumption Indicator
TQ	Injection Quantity Diesel

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