

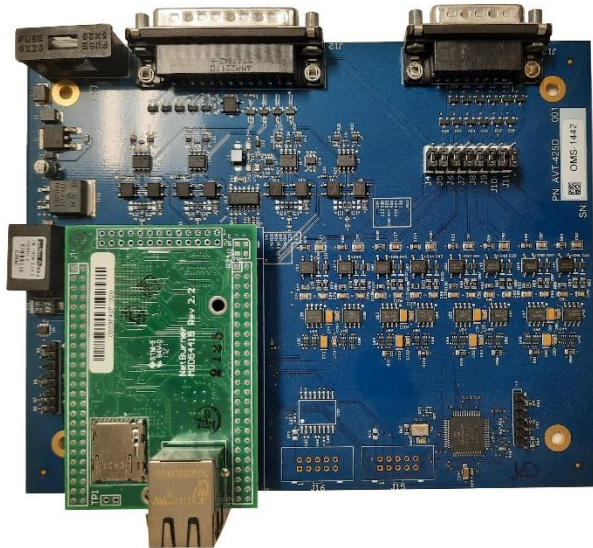


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OMS AVT-425

The OMS AVT-425 is a multiple network interface device for in-vehicle networks. It supports CAN High Speed, CAN FD, and LIN communications.



Electronic Control Circuitry

- Netburner[®] MOD54415 32bit
NXP/Freescale Coldfire processor running at 250Mhz
Supports: Network, AVT-425 Protocol, and CAN High Speed channels
- Microchip[®] SAM V70 MCU running at 300Mhz
Supports: CAN-FD channels
- Microchip[®] PIC24 running at 32Mhz
Supports: LIN channels

AVT-423 Compatible:

- See chart on page 3

Physical Characteristics

- Dimensions: 6.417" x 5.059"

Environmental Characteristics

- Operating Temperature: -40° C to 85° C
- Humidity Range (Non-Condensing) 0 to 95% RH

Features

- 1 CAN Single Wire
(see Hardware Compatibility chart notes)
- 2 CAN High Speed 2-wire
ISO 11898, J1939, ISO 15765
- 2 CAN FD 2-wire
ISO 11898, J1939, ISO 15765
- 6 LIN
All versions of LIN as either Master or Slave.
- 1 Digital Output
IXYS part number CPC1017N
60 volts maximum blocking voltage
100 mA maximum continuous load current
16 ohm on-resistance maximum
- Programmable Periodic Messages for all CAN and LIN Channels

Power Requirements

- DC Input Voltage: 8-18 Vdc,
- Operating current: 207ma @ 12v

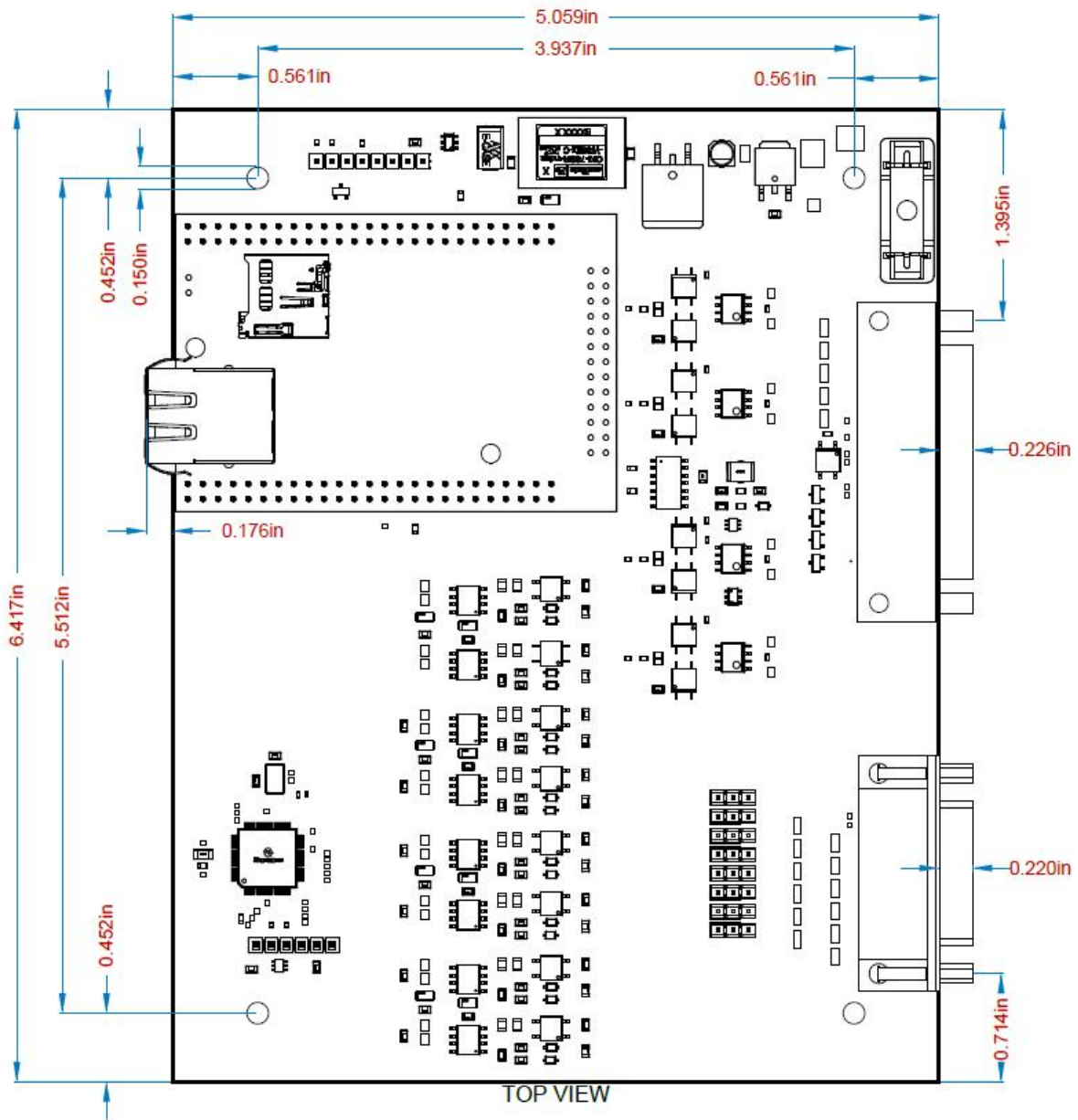
Communications:

- Ethernet 10-100 BaseT
- Control over Ethernet using protocol defined in AVT-425 v5.0.0.x Users Manual

Diagnostic Application:

- AVT Diag Tool x64 v5.0.x.0

Board Dimensions and Mounting Hole Locations:



Compatibility for AVT-423:

Hardware Compatibility for AVT-423					
	AVT-423	AVT-425	Compatible	Notes	
CAN High Speed Channels		2	2 Yes	CAN0 is 2 Wire (Pins: 1H,14L on DB25P) CAN1 is 2 Wire or SWC 2 Wire (Pins: 2H,15L on DB25P) SWC (Pin: 10 on DB25P)	
CAN FD Channels		2	2 Yes		
CAN Single Wire		1	1 Yes	When CAN1 enabled for SWC, CAN1 2 Wire mode is disabled.	
LIN		2	2,6 Yes	LINO and LIN1 experience drop packets Use LIN2 - LIN7 without packet loss	
Protocol	FW Ver 0074 10-21-2023	20230607 AVT-425 v5.0.0.12 Users Manual.pdf	Yes	See Firmware Compatibility chart	
Dimensions	6.417" x 5.059"	6.417" x 5.059"	No	Mounting Hole Locations are Identical DB25P physical location is different DB15 was added for 6 LIN Channels	
Interface	DB25P	DB25P, DB15P (LIN2-LIN7)	Yes	DB25P pin for pin	

Firmware Compatibility for AVT-423					
Protocol Item Description	Command	AVT-423	AVT-425	Channel	Notes
Firmware Version	NA	AVT Latest FW: 0074	OMS Current FW: 50 0C or v5.0.12	NA	AVT-425 FW: 0019 from AVT Special Periodic Message Functions 7x 55,7x 56,7x 57,7x 58,7x 59,7x 5A,7x 5B Are NOT supported by OMS FW (See Protocol Manual for Rolling Counter and CRC implementation)
Receive objects	See Protocol Manual	64 (0x0-0x3F)	16 (0x00-0x0F)	CAN2,CAN3	Ref: OMS AVT-425 v5.0.0.x Users Manual.pdf
Transmit objects	See Protocol Manual	64 (0x0-0x3F)	16 (0x00-0x0F)	CAN2,CAN3	Ref: OMS AVT-425 v5.0.0.x Users Manual.pdf
Transmit attempt limit	7x 63	User selectable	No function	CAN2,CAN3	
Periodic Messages	7x 18 11 bb 2r (CAN-FD) 12 00 bb 2r (CAN-FD)	32 (CAN) 16 (LIN) Type1 Type2 (Sequential) CAN Only Special Functions (Refer to Manual)	64 (CAN) 16 (LIN) Type1 J1850 CRC Rolling Counter	CAN0,CAN1,CAN2,CAN3 LIN0-LIN7	J1850 CRC: Specify Any Byte Location Rolling Counter: Up to 32bit Specify Starting Value Specify Bit locations
Frame buffers	See Protocol Manual	Yes	No	CAN2,CAN3	
Transmit command: Upper nibble bits	See Protocol Manual	(7): IDE (6): RTR (5): EDL (4): BRS	(7): IDE (6): RTR (5): FDF (4): BRS	CAN2,CAN3	The EDL (Extended Data Length) bit has been renamed FDF (FD Frame) bit this was done to be consistent with the underlying CAN controller. The meaning and function of the bit is identical
Mirror function	See Protocol Manual	Yes	No	CAN0,CAN1,CAN2,CAN3,LIN0-LIN7	
Extended object numbers	See Protocol Manual	Yes (0x3F) 6 bits	No (0x0F) 4 bits	CAN2,CAN3	
Pull-up resistor selection	5x 09	No	Yes	LIN0-LIN7	
Mirror / Data change		Commands 5x 11, 5x 12 related to Mirror Function	Commands 5x 11, 5x 12, 5x 13, 5x 14 related to data change Function	LIN0,LIN1	
Heartbeat LED rate	5x 6C	No	Yes	CAN2,CAN3	
Select type of CAN-FD operations	7x 02	Yes	No	CAN2,CAN3	
Query for object data	7x 06	Yes	No	CAN0,CAN1	
Bit Timing Registers (BTR)	7x 0B	Hardware dependent	Hardware dependent	CAN2,CAN3	The format of the 7x 0B command for channels CAN2 and CAN3 is unique for each hardware platform
Transmit object configuration	7x 17	Object numbers 0x00-0x3F	Object numbers 0x00-0x0F	CAN2,CAN3	
Periodic message disable/enable	74 1A	Off Type1 Type2	Off Type1	CAN2,CAN3	
Mirror Commands	7x 20, 7x 21, 7x 22	Yes	No	CAN0,CAN1,CAN2,CAN3	
Frame buffer commands	7x 50,7x 51,7x 52,7x 53,7x 54	Yes	No	CAN0,CAN1,CAN2,CAN3	
Transmit attempt limit	7x 63	Yes	No	CAN2,CAN3	
CAN2/3 firmware version number	B1 07	No	Yes	CAN2,CAN3	
ISO 15765	See Protocol Manual	Yes	Yes	CAN0,CAN1,CAN2,CAN3	