**Applicable products: E7U, E7B[1], E7L[1], P7U, P7B[1] and P7L[1] drives**

1. **Unpack the *BACnet Option* and verify that all components are present and undamaged.**

Part		Qty.
BACnet Option (UTC000220)		1
Installation Guide (IG.E7.23)		1
UWR00567-1 (Drive Connection Cable - Included)	12" Cable	1
UWR00567-2 (Drive Connection Cable – Optional)	20" Cable	Opt
UWR00567-3 (Drive Connection Cable – Optional)	78" Cable	Opt

Note: 1:Cables UWR00567-2 and UWR00567-3 are used for Bypass products and must be ordered separately.
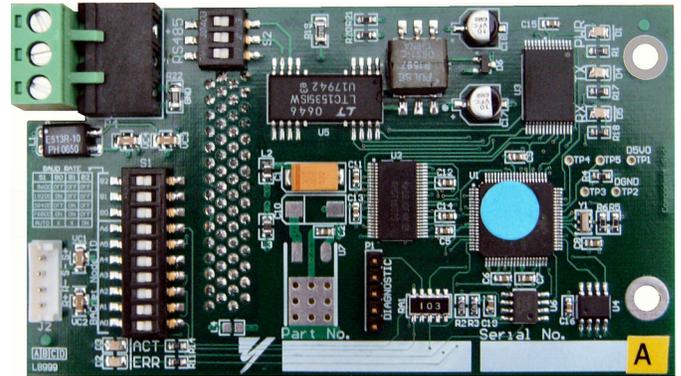
2. **Prepare the drive.**

- Connect the drive as shown in the appropriate technical manual or supplied schematic as with the Bypass products. Apply power to the drive or Bypass panel and verify that the drive functions correctly. This includes running the drive through the operator keypad (or the Bypass keypad, in case of Bypass products). Refer to the appropriate technical manual or schematics for information on connections and operation.

- Remove power and wait for the drive charge lamp to be completely extinguished. Measure and verify that the drive's DC BUS voltage is at a safe level.

⚠ WARNING

Dangerous voltages in excess of 400VDC (230V drives) or 800VDC (460V drives) are present at the DC bus terminals of the drive.

- Remove the operator keypad and all drive covers.
- For Bypass products, make sure that the disconnect is in the OFF position, then loosen the cover screws and open the cover.

3. **Mount the *BACnet Option* on the drive.**

- Remove the option card hold-down on the left side of the drive case by carefully compressing the top and bottom until it becomes free of its holder. Lift it out.

- Align the connector on the back of the *BACnet Option* with its mating 2CN connector on the front of the drive control card. Align the two standoffs on the front of the drive control board with the two holes on the right side of the *BACnet Option*. Press the *BACnet Option* firmly onto the drive 2CN connector and standoffs until the 2CN connector is fully seated and the drive standoffs have locked into their appropriate holes.

- Insert the option card hold-down on the left side of the drive case.

- **E7U/P7U Connection** – Connect the supplied cable to terminal **J2** on the *BACnet Option*. Route the four wires along the left side of the control board and along the bottom of the terminal assembly connecting them directly to the **R+**, **R-**, **S+** and **S-** terminals on the terminal assembly as shown in figure *E7U/P7U Terminal Connections* below.

- **Bypass Connection** - Connect the appropriate drive cable to terminal **J2** on the *BACnet Option*. Select the shortest cable for your application (20 inch - UWR00567-2 or 78 inch - UWR00567-3). Route the four wires to terminal board **TB4** on the Bypass product control card. Connect the wires as shown below in the figure ***Bypass Terminal Connections.***

- **E7U/P7U Termination** – Set the Termination Switch S1 on the terminal assembly to OFF as shown below. This is independent of whether the drive is the first or last device on the network.

- **Bypass Termination** - Set the Termination Switch S1 to OFF on the Bypass product control card. This is independent of whether the drive is the first or last device on the network.
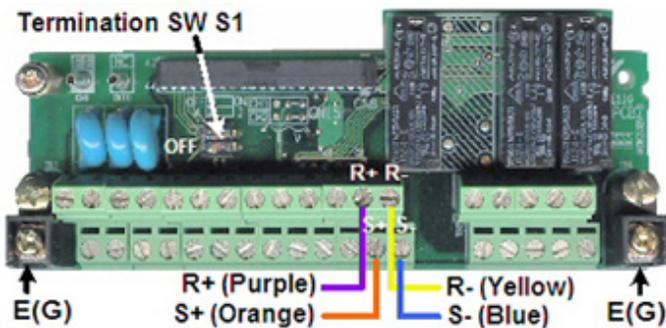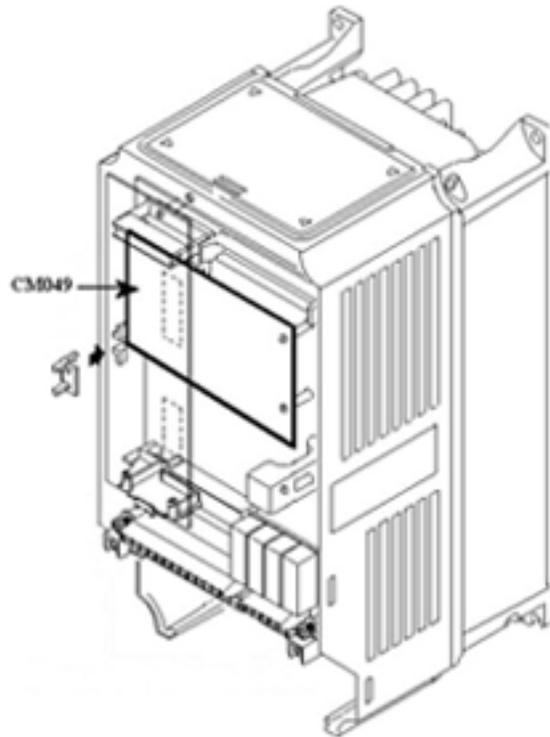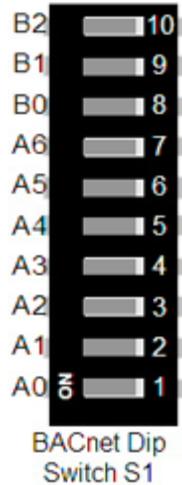

E7U/P7U Terminal Connections
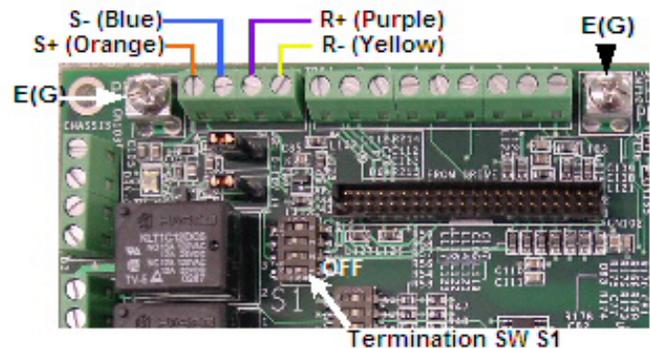
Bypass Terminal Connections

4. Set the Node Baud Rate – Switches 9 & 10 of S1 on BACnet Option

Switch	9600	19200	38400	78600	Auto Baud
B0 (8)	OFF	ON	OFF	ON	OFF
B1 (9)	OFF	OFF	ON	ON	OFF
B2 (10)	OFF	OFF	OFF	OFF	ON

5. Set the Node Address – Switches 1 ~ 8 of S1 on BACnet Option

SW	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
A0 (1)	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1
A1 (2)	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1
A2 (3)	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1
A3 (4)	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1
A4 (5)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
A5 (6)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A6 (7)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

SW	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
A0 (1)	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1
A1 (2)	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1
A2 (3)	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1
A3 (4)	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1
A4 (5)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
A5 (6)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
A6 (7)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

SW	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
A0 (1)	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1
A1 (2)	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1
A2 (3)	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1
A3 (4)	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1
A4 (5)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
A5 (6)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A6 (7)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

SW	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127
A0 (1)	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1
A1 (2)	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1
A2 (3)	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1
A3 (4)	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1
A4 (5)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
A5 (6)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
A6 (7)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

6. Connect to the *BACnet* network.

The *BACnet Option* connects to a BACnet MS/TP, RS 485, network. Connect the *BACnet* network to the 3-pin connector on the *BACnet Option* as shown.
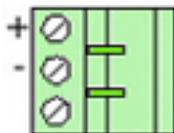
To connect to a BACnet Ethernet network, an Ethernet to MS/TP router must be used.

Note: It is highly recommended that shielded cable be used for the MS/TP network. The shield should be grounded at the router/controller and must be connected serially to all of the devices on the BACnet network segment.

7. Set the *BACnet Option* termination.

If this is the last device on the BACnet network, set all three dip switches to ON. If not, then leave them OFF.
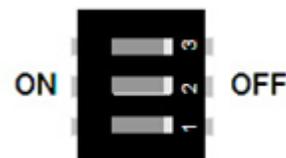
8. **Set the drive parameters.**

- Remove power from the drive and wait for the charge lamp to be completely extinguished. Wait at least five additional minutes for the drive to be completely discharged. Measure the DC BUS voltage and verify that it is at a safe level.

⚠️ **WARNING**

Dangerous voltages in excess of 400VDC (230V drives) or 800VDC (460V drives) are present at the DC bus terminals of the drive.

- Reinstall the operator keypad and all drive covers. Apply power to the drive.

- Set parameters b1-01 and b1-02 to their appropriate values. Refer to the table below for available b1-01 and b1-02 values. Reference Selection and Operation Method Selection can have different values depending on the application.

- Set all other drive parameters as shown in the table below.

- After all drive parameters have been set, power cycle the drive. Communications parameters will not take effect until power has been removed from the drive and the charge lamp has been extinguished and restored.

⚠️ **WARNING**

Dangerous voltages in excess of 400VDC (230V drives) or 800VDC (460V drives) are present at the DC bus terminals of the drive.

- **For Bypass-Panel applications, refer to the parameter table and electrical schematic accompanying the unit for all settings.**

9. **Drive Parameter Table**

Parameter	Function	Data	Description		Default
A1-01	Access Level	0	Operator		2
		1	User		
		2	**Advanced**		
b1-01	Reference Selection	0	Digital Operator		1
		1	Terminals		
		2	**Serial Communication (*BACnet*)**		
		3	Option PCB		
b1-02	Operation Method Selection	0	Digital Operator		1
		1	Terminals		
		2	**Serial Communication (*BACnet*)**		
		3	Option PCB		
F6-01	Communications Bus Fault	0	Ramp to Stop		1
		1	Coast to Stop		
		2	Fast-Stop		
		3	**Alarm Only (*BACnet*)**		
F6-02	EF0 Detection	0	Always detected		0
		1	**Detect only in Run**		
F6-03	EF0 Fault Action	0	Ramp to Stop		1
		1	Coast to Stop		
		2	Fast-Stop		
		3	**Alarm Only (*BACnet*)**		
H5-01	Serial Communications Address	0-1F	**1Fh (31) (*BACnet*)**[1]		1Fh (31 dec)
H5-02	Serial Baud Rate Select	0	1200 baud		3
		1	2400 baud		
		2	4800 baud		
		3	**9600 baud (*BACnet*)**		
		4	19200 baud		
H5-03	Serial Parity Select	**0**	**None (*BACnet*)**		0
		1	Even parity		
		2	Odd parity		
H5-04	Serial Fault Select	0	Ramp to Stop		1
		1	Coast to Stop		
		2	Fast-Stop		
		3	**Alarm Only (*BACnet*)**		
H5-05	Serial Fault Detect	0	Disabled	Select as application requires	1
		1	Enabled		
H5-06	Transmit Wait	**5**	**5 – 65ms**		5
H5-07	RTS Control Select	0	Disabled		1
		1	**Enabled (*BACnet*)**		

Parameter	Function	Data	Description		Default
H5-08	Protocol Select	**0**	**MODBUS (*BACnet*)**		0
		1	N2 (Metasys)		
		2	P1 (APOGEE)		
H5-09	CE Detect Time	0.0 sec ~ 10.0 sec			2.0 sec

1. BACnet network address set by dip switches A0-A5
on option card.
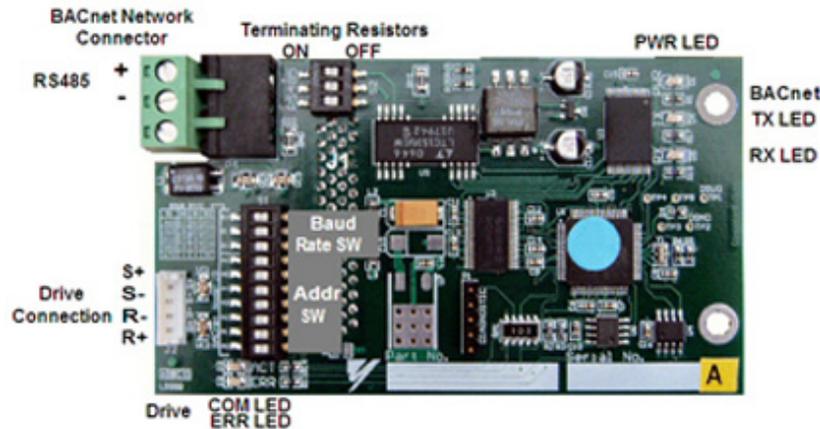
10. **Set the Device Instance ID**

The CM049 option arrives from the factory with the Device Instance Identifier set to 0.

To change it, send a WriteProperty, objectidentifier = device, ID, where ID is a number between 1 and 4194302, inclusive. The message DADR is the CM049 address as represented by the dip switches on the CM049 option.

11. **LED Status Indicators and Diagnostics**

LED Display			Condition
PWR	**RX**	**TX**	
OFF	OFF	OFF	No Power to Option
ON			Option Powered
ON	OFF	ON	BACnet network disconnected. The transmit LED will flash for a short while after the network has been disconnected.
ON	OFF	OFF	BACnet network disconnected
ON	ON		BACnet Receive Message
ON		ON	BACnet Send Message

(Right column for the last two rows:) Due to the speed of the BACnet communication, these LEDs should flash at an extremely fast rate.

LED Display			Condition	
			Operator displays EF0	Either the BACnet cable is disconnected or the BACnet card cannot communicate with the drive.

ACT	ERR	Condition	
OFF	OFF	Option not communicating with drive. Check S+/S- and R+/R- connections.	
GREEN	OFF	Communicating with the drive over RS485	
	RED	An error has occurred in communicating with the drive	
	RED	Operator displays EF0	The BACnet card cannot communicate with the drive.
		Operator displays CE	The drive cannot communicate with the BACnet card.

12. **Analog Inputs (AI)**

Obj ID	Name	Scale	Units
AI1	Analog Input 1 Level	0.1	%
AI2	Analog Input 2 level	0.1	%
AI3[1]	Modbus Timeout Cnt		
AI4[1]	Modbus Checksum Cnt		
AI5[1]	Modbus Error		
AI6[1]	Display Format o1-03	Not Scaled	No Units
AI7[1]	Scale Format b5-20		
AI8[1]	Inverter Model o2-04		
AI9[1]	Rated Current n9-01		

Note: 1: A13 through A19 are for diagnostics purposes only.

13. **Analog Outputs (AO)**

Obj ID	Name	Scale	Units
AO1	Analog Output 1 Level	0.1	%
AO2	Analog Output 2 Level	0.1	%

14. **Binary Inputs (BI)**

Obj ID	Name	ON Text	OFF Text
BI1	Multi Function Input 1	ON	OFF
BI2	Multi Function Input 2	ON	OFF
BI3	Multi Function Input 3	ON	OFF
BI4	Multi Function Input 4	ON	OFF
BI5	Multi Function Input 5	ON	OFF
BI6	Multi Function Input 6	ON	OFF
BI7	Multi Function Input 7	ON	OFF
BI8	Multi Function Output 1	ON	OFF
BI9	Multi Function Output 2	ON	OFF

15. **Binary Outputs (BO)**

Obj ID	Name	ON Text	OFF Text
BO1	Multi Function Output 1	ON	OFF
BO2	Multi Function Output 2	ON	OFF
BO3	Multi Function Output 3	ON	OFF
BO4	Ref Sel: PI Set point	ON	OFF
BO5[1]	Ref Sel: Terminal S5 IN	ON	OFF
BO6[1]	Ref Sel: Terminal S6 IN	ON	OFF
BO7[1]	Ref Sel: Terminal S7 IN	ON	OFF

Note: 1: BO5, BO6 and BO7 are for broadcast messages only. Only RUN/STOP and frequency reference messages may be sent.

16. Analog Values (AV)

Obj ID	Obj Name	Bit	Name	Read/ Write	Scale	Unit
AV1	Operation Cmd	0	Run Forward	Write	Bit Field	
		1	Run Reverse			
		2	External Fault (EF0)			
		3	Fault Reset			
		4	ComNet			
		5	ComRef			
		6	Multi-Function Input 3			
		7	Multi-Function Input 4			
		8	Multi-Function Input 5			
		9	Multi-Function Input 6			
		10	Multi-Function Input 7			
		11	Multi-Function Input 8			
		12	Reserved			
		13	Reserved			
		14	Reserved			
		15	Reserved			
AV2	Frequency Cmd	Scaled by o1-03 with Units selected by Parameter o1-09		Write	o1-03	o1-09
AV3[1]	PI Setpoint Cmd	Reference Select PID (BO4) must be set to ON in order to use AV3 Scaled by Parameter b5-20 with Units by b5-31		Write	b5-20	b5-31
AV4	MF Outputs Cmd	0	Relay Output	Write		
		1	PCH1			
		2	PCH2			
		3	Reserved			
		4	Reserved			
		5	Reserved			
		6	Error Relay Enable (Must be Set Before bit 7)			
		7	Error Relay			
		8-15	Reserved			
AV5	Reference Select Cmd	0	Reserved	Write	Bit Field	
		1	Ref. Select PID			
		2-11	Reserved			
		12	Ref. Select Terminal 5			
		13	Ref. Select Terminal 6			
AV6	Drive Status	0	@ Run	Read	Bit Field	
		1	@ Reverse			
		2	@ Inverter Ready			
		3	@ Fault			
		4	@ Data Set Error			
		5	@ Relay Output			
		6	@ PCH1			
		7	@ PCH2			
		8-15	Reserved			

Note	[1] In order to use AV3 (Ref Sel: PI Setpoint)	Set b5-01 = 1 Set BO4 (Ref Sel: PI Setpoint) to ON Set the desired value in AV3 in percent of max frequency

Obj ID	Obj Name	Bit	Name		Read/ Write	Scale	Unit
AV7	Fault Details	0	Overcurrent Ground Fault	OC GF	Read	Bit Field	
		1	Over Voltage	OV			
		2	Drive Overload	OL2			
		3	Drive Overheat Drive Overload	OH1 OH2			
		4	Breaking Transistor Fault Breaking Resistor Overheat	rr rH			
		5	Fuse Blown	PUF			
		6	PID Feedback Loss	FbL			
		7	External Fault	EF, EF3, EF4, EF5, EF6, EF7			
		8	Hardware Fault	CPF			
		9	Motor Overload Drive Overload Overtorque	OL1 OL2 OL3			
		10	PG Disconnect Overspeed Speed Deviation	PGO OS DEV			
		11	Under Voltage Detect	UV			
		12	Main Circuit Undervoltage Control Circuit Undervoltaqge MC Error	UV1 UV2 UV3			
		13	Output Phase Loss Input Phase Loss	SPO SPI			
		14	Drive Communication Error	CE			
		15	Operator Connection Error	OPR			
AV8	Data Link Status	0	@ Writing Data		Read	Bit Field	
		1	Reserved				
		2	Reserved				
		3	@ Limit Fault				
		4	@ Data Compatibility Fault				
		5-15	Reserved				
AV9	Frequency Reference	U1 – 01 Scaled by Parameter o1-03 with Units from Parameter o1-09			Read	o1-03	o1-09
AV10	Output Frequency	U1 – 02 Scaled by Parameter o1-03 with Units from Parameter o1-09			Read	b5-20	b5-31
AV11	Output Voltage	U1 – 06			Read	0.1	VAC
AV12	Output Current	U1 – 03 Scale Dependent on drive model Models 0h ~ 6h and 20h ~ 27h are 0.01A Models 7h ~ 1Fh and 28h ~ 3Fh are 0.1A			Read		A
AV13	Output Power	U1 - 08			Read	0.1	kW
AV14	Torque Reference	Not Supported in E7/P7			Read	0.1	%
AV15	MF Input Status	0	@ Terminal S1 Closed		Read	Bit Field	
		1	@ Terminal S2 Closed				
		2	@ Terminal S3 Closed				
		3	@ Terminal S4 Closed				
		4	@ Terminal S5 Closed				
		5	@ Terminal S6 Closed				
		6	@ Terminal S7 Closed				
		7	@ Terminal S8 Closed				
		8-15	Reserved				

Obj ID	Obj Name	Bit	Name	Read/ Write	Scale	Unit
AV16	Drive Status 2	0	@ Run	Read	Bit Field	
		1	@ Zero Speed			
		2	@ Speed Agree			
		3	@ Random Speed Agree			
		4	@ Frequency Detect 1			
		5	@ Frequency Detect 2			
		6	@ Drive Ready			
		7	@ Under Voltage			
		8	@ Base Block			
		9	@ Frequency Ref Mode			
		10	@ Command Ref Mode			
		11	@ Over Torque			
		12	@ Frequency Ref Loss			
		13	@ Fault Retry			
		14	@ Fault			
		15	@ Drive Communications Timeout			
AV17	MF Output Status	0	@ Relay Output Closed	Read	Bit Field	
		1	@ PCH1 Closed			
		2	@ PCH2 Closed			
		3-15	Reserved			
AV18	DC Bus Voltage	U1- 07		Read	0.1	V
AV19	PI Feedback Level	U1 – 24		Read	0.1	%
AV20	PI Input Level	U1 – 36		Read	0.1	%
AV21	PI Output Level	U1 - 37		Read	0.1	%
AV22	CPU Software	U1 – 28		Read	n/a	
AV23	Flash Number	U1 – 14		Read	n/a	
AV24	Comm Error Detail	0	@ CRC Error	Read	Bit Field	
		1	@ Data Length Error			
		2	@ Reserved			
		3	@ Parity Error			
		4	@ Overrun Error			
		5	@ Framing Error			
		6	@Timeout			
		7-15	Reserved			
AV25	kVA Setting	Parameter o2 - 04		Read	n/a	
AV26	Control Method	Not Supported in E7/P7		Read	n/a	
AV27	Accel Time	Parameter C1 - 01		Write	0.1	Sec
AV28	Decel Time	Parameter C1 - 02		Write	0.1	Sec
AV29[1]	Param Number			Write	n/a	
AV30[1]	Param Data			Write	n/a	

Note: [1] AV29   Enter the address of the desired register or parameter in AV29 in decimal. For example: b1-01's address is 180 in hex but 384 in decimal.

AV30   Read – Leave at 0. The data returned will be available in the next scan.

Write – Set value to the appropriate **decimal** value. After a write.

Set BV55 to ON to move the data into active memory. Set BV56 to ON to move the data into active memory and store it in non-volatile memory. Care must be taken when using BV56. When non-volatile memory writes are exhausted, the control card will have to be replaced.

17. **Binary Values (BV)**

Obj ID	Obj Name	Read/ Write	Inactive (OFF) Text	Active (ON) Text
BV1	Run FWD Cmd	Write	OFF	RUN FWD
BV2	Run REV Cmd	Write	OFF	RUN REV
BV3	Ext Fault Cmd	Write	OFF	EXT FAULT
BV4	Fault Reset Cmd	Write	OFF	RESET
BV5	Com Net Cmd	Write	LOCAL	COM
BV6	Com Cntrl Cmd	Write	LOCAL	COM
BV7	MF Input 3 Cmd	Write	OFF	ON
BV8	MF Input 4 Cmd	Write	OFF	ON
BV9	MF Input 5 Cmd	Write	OFF	ON
BV10	MF Input 6 Cmd	Write	OFF	ON
BV11	MF Input 7 Cmd	Write	OFF	ON
BV12	Set Fault Contact Cmd	Write	OFF	ON
BV13	RUN-STOP	Read	OFF	RUN
BV14	REV-FWD	Read	FWD	REV
BV15	READY	Read	OFF	READY
BV16	FAULT	Read	OFF	FAULTED
BV17	Data Set Error	Read	OFF	ERR
BV18	Overcurrent – Ground Fault	Read	OFF	OC - GF
BV19	Main Circuit – Overvoltage	Read	OFF	OV
BV20	Drive Overload	Read	OFF	OL2
BV21	Drive Overheat	Read	OFF	OH1 – OH2
BV22	Fuse Blown	Read	OFF	PUF
BV23	PI Feedback Loss	Read	OFF	FBL
BV24	External Fault	Read	OFF	E0 - EF
BV25	Hardware Error	Read	OFF	CPF
BV26	Motor Overload - Overtorque	Read	OFF	OL1 – OL3
BV27	Overspeed	Read	OFF	OS – DEV
BV28	Main Circuit Under Voltage	Read	OFF	UV
BV29	MCU, Control Power Supply Error	Read	OFF	UV1 – 2 – 3
BV30	In/Out Phase Loss	Read	OFF	LF
BV31	Communication Error	Read	OFF	CE
BV32	Operator Disconnect	Read	OFF	OPR
BV33	Operating	Read	OFF	ON
BV34	Zero Speed	Read	OFF	ON
BV35	Frequency Agree	Read	OFF	ON
BV36	Desired Frequency Agree	Read	OFF	ON
BV37	Frequency Detect 1	Read	OFF	ON
BV38	Frequency Detect 2	Read	OFF	ON
BV39	Drive Startup Complete	Read	OFF	ON
BV40	Low Voltage Detect	Read	OFF	ON
BV41	Base Block	Read	OFF	ON
BV42	Frequency Ref Mode	Read	COM	LOCAL
BV43	Run Command Mode	Read	COM	LOCAL
BV44	Overtorque Detect	Read	OFF	ON
BV45	Frequency Reference Loss	Read	OFF	ON
BV46	Retry Error	Read	OFF	ON
BV47	Modbus Comms Error	Read	OFF	ON
BV48	Modbus Timeout Error	Read	OFF	ON
BV49	Crc Error	Read	OFF	ON
BV50	Invalid Data Length	Read	OFF	ON

Obj ID	Obj Name	Read/ Write	Inactive (OFF) Text	Active (ON) Text
BV51	Parity Error	Read	OFF	ON
BV52	Overrun Error	Read	OFF	ON
BV53	Framing Error	Read	OFF	ON
BV54	Timeout Error	Read	OFF	ON
BV55[1]	Param Accept	Write	OFF	ON
BV56[1]	Param Enter	Write	OFF	ON
BV57	Drive Comm Error	Read	OFF	ON

Note: [1] To transfer the parameter write value to active memory, set BV55 to ON.

To transfer the parameter write value to active and non-volatile memory, set BV56 to ON. Care must be taken when using BV56. When non-volatile memory writes are exhausted, the control card will have to be replaced.

18. BACnet Faults

Fault Condition	Behavior	Corrective Action
Communication from *BACnet Option* to drive fails.	If enabled (H5-05 = 1), a CE fault will stop the motor as selected by H5-04.	• Check that the PWR LED is on. • Check cable connections on drive terminal assembly. • Check connection on J2 on the *BACnet Option*. • Check that the termination resistor on the terminal assembly is OFF. • Check that parameters H5-01 through H5-09 are at their correct values.
Communication from drive to *BACnet Option* fails.	The drive will declare an EF0 fault. If enabled (F6-02 = 1), and EF0 will stop the motor as selected by F6-03.	• Check that the PWR LED is on. • Check cable connections on drive terminal assembly. • Check connection on J2 on the *BACnet Option*. • Check that parameters H5-01 through H5-09 are at their correct values.
Communication on BACnet fails.	The drive will declare an EF0 fault. If enabled (F6-02 = 1), an EF0 will stop the motor as selected by F6-03.	• Check that the PWR LED is on. • Check BACnet cable connections. • Check BACnet cable. • Check the termination resistor on the *BACnet Option*. • Check that the BACnet controller and associated routers are running and that the BACnet network is active.

Note: An EF0 may also be declared from the controller by setting either BV3 or AV1 bit 2 (AV1 bits are numbered from 0 to 15) to 1.
If an EF0 is set from the controller, it may be reset by a restoration of the network communications.

Copies of this Installation Guide along with all technical manuals in ".pdf" format and support files may be obtained from either the CD supplied with the drive or from www.yaskawa.com. Printed copies of any Yaskawa manual may be obtained by contacting the nearest Yaskawa office..

Reference Documents:

E7U Drive User Manual – **TM.E7.01**

E7U Drive Programming Manual – **TM.E7.02**

E7U Drive Parameter Access Technical Manual – **TM.E7.11**

P7U Drive User Manual – **TM.P7.01**

P7U Drive Programming Manual – **TM.P7.02**

P7U Drive Parameter Access Technical Manual – **TM.P7.11**

Data subject to change without notice