



BT300 HVAC Drives



Figure 1. BT300 HVAC Drive without and with Integral Disconnect.

Description

Siemens Industry's BT300 is designed specifically for the demands of today's HVAC systems. Increased focus on energy efficiency of variable flow systems has increased the need for easy-to-use and highly reliable variable frequency drives that reduce the cost of installation and maintenance while maximizing energy savings.

The BT300 comes standard with unique and industry-leading features:

- Motor Switch Ride Through – during maintenance the motor disconnect switch can be opened and closed without stopping or tripping the drive.
- Thin Film Capacitors – eliminate the need to condition or reform the capacitors before applying power.
- View/Monitor nine parameters at one time – user selectable, users determine the parameters for their applications.
- Smallest Type 12 footprint on the market – lower shipping cost and easy installation.

Designed for HVAC

HVAC demands are unique to other drive applications. The BT300 is singularly focused on the needs of HVAC variable flow systems:

- Built-in wizards for start-up and easy setup of advanced functions
 - PID Start-up Wizard
 - Multi-pump Wizard
 - Fire Mode Wizard
- EMI/RFI filters to meet EMC Immunity IEC 61800-3 first and second environment.
- Integrated DC bus chokes equivalent to 5% impedance.
- BT300 Thin Film Capacitors do not require conditioning. Immediate drive replacement is possible.
- Standard Integration Protocols (APOGEE® P1, BACnet, Modbus, LON (optional), Metasys N2)
- Two built-in PID controllers for fast and accurate process control
- Built-in fire mode controller
- Energy Savings with > 97.5% efficiency
- Optimized cooling fans
- UL Type 1 and Type 12 – Same Size
- 208 Vac to 240 Vac 1 hp to 125 hp
- 380 Vac to 500 Vac 1.5 hp to 250 hp
- 525 Vac to 600 Vac 3 hp to 200 hp
- Optional integrated drive disconnect
- Advanced I/O expansion capability built into the drive
- One common interface throughout all power ranges
- Intuitive graphical keypad with multilingual display.

Ease of Use

The BT300 drives are easy to use, easy to understand and easy to program. This means installed cost and maintenance savings. Information you want for your specific operation:

- Built-in Help Menu – explains each parameter.
- Built-in Maintenance Manual - shows possible causes and suggested remedies.
- Nine user-selected values can be defined and monitored at one time – providing you with all the information you need at a glance.
- Embedded Ethernet and RS-485 - No additional hardware or cost for Ethernet. Standard HVAC protocols out-of-the-box.
 - APOGEE P1
 - BACnet IP
 - BACnet MS/TP
 - Modbus RTU
 - Modbus TCP
 - Metasys N2

World-class Standard of Quality

Siemens Industry's VFDs are designed to operate in all types of power situations or demanding environments. The BT300's reliability is a result of extensive testing from design to deployment. This testing includes highly accelerated stress testing in extreme temperatures, vibration, and humidity as well as current and voltage variations. Not only will the BT300 withstand most power situations and demanding environmental conditions, it will provide confidence and peace of mind knowing that it will not fail, ensuring a long, trouble-free installation.

Investment Protection

The BT300 supports Siemens Industry's long-standing, industry-leading backward compatibility tradition. The BT300 HVAC Drive is backward compatible to SED2 installations. A migration kit to mount a BT300 Drive in place of an SED2 to support the existing conventional or electronic bypass is an ideal solution to moving your technology forward at the lowest possible cost. The SED2 to BT300 Migration Kits provide you with all the components necessary to mount your BT300 quickly and easily in various locations within your facility.

Environmentally Responsible

The BT300 saves energy, is environmentally safe and RoHS Compliant. All BT300s are constructed with lead-free circuit boards and produce no hazardous waste. They use the latest technologies for insulated-gate bipolar transistors (IGBT) and power capacitors. The thin-film power capacitors do not contain toxic electrolytes; therefore, the BT300 capacitors will not dry out. There is no need to “wake up” or condition the capacitors before installing. Your BT300 is safe to connect even after years of storage.

The BT300 IGBT design results in lower heat losses and lower operating temperatures. It weighs 40% less than competitors' models decreasing the cost of shipping and allowing for easier installation. An average BT300 generates 68% to 125% fewer CO2 emissions than heavier competitors' drives during shipping.

Product Numbers

		Example: BT300 - 0 0 1 X 2 - 0 1 X										
		Example: BT300 - 0 0 1 5 4 - 1 2 D										
Model(s)												
BT300		VFD Only										
Separator												
HP												
1 ¹⁾ , 1.5 ²⁾ , 2 ²⁾ , 3, 5, 7.5, 10, 15, 20, 25, 30, 40, 50, 60, 75 ³⁾ , 100 ³⁾ , 125 ³⁾ , 150 ⁴⁾ , 200 ⁴⁾ , 250 ⁵⁾												
X = no fraction, 5 = 1/2 hp												
Voltage												
2		208 Vac to 240 Vac										
4		380 Vac to 500 Vac										
6		525 Vac to 600 Vac										
Separator												
NEMA												
00 ⁶⁾		Chassis Version (IP 00)										
01		NEMA Type 1 (IP 21)										
12		NEMA Type 12 (IP 54)										
Type												
X		Drive Only										
D		Disconnect ⁷⁾										

¹⁾ Available only with voltage code 2.

²⁾ Available only with voltage code 2 or 4.

³⁾ Use with voltages equal to or greater than 230 Vac.

⁴⁾ Available only with voltage code 4 or 6.

⁵⁾ Available only with voltage code 4.

⁶⁾ Available only with 50 hp and above @ 208 Vac
or 100 hp and above @ 480 Vac (FS8 and FS9).

⁷⁾ Available only with NEMA Type 12 with 30 hp and below @ 240 Vac
or 60 hp and below @ 480 Vac
or 50 hp and below @ 600 Vac.

Example Product Numbers:

BT300-001X2-01X

BT300, 1 hp, 208 to 240 Vac, NEMA Type 1, Drive Only

BT300-00154-12D

BT300, 1.5 hp, 380 to 500 Vac, NEMA Type 12, Drive with disconnect

Frame Sizes and Power Ranges (BT300 Type 1 and Type 12)

Voltage	HP	1	1.5	2	3	5	7.5	10	15	20	25	30	40	50	60	75	100	125	150	200	250
	kW	0.75	1.1	1.5	2.2	4	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90	110	132	160
208-240	Frame Size	4				5				6		7			8		9				
380-500						4				5		6			7		8		9		
525-600						5				6		7			8		9				

Specifications

Table 1. Drive Specifications.

Specification	Description
Input Voltages and Power Ranges (3-phase)	208 to 240 Vac (-10% to +10%): 1 hp to 125 hp (0.75 kW to 90 kW) 380 to 500 Vac (-10% to +10%): 1.5 hp to 250 hp (1.1 kW to 160 kW) 525 to 600 Vac (-10% to +10%): 3 hp to 200 hp (2.2 kW to 132 kW)
Input Frequency	45 to 66 Hz (50 to 60 Hz; -5% to +10%)
Output Voltage	0 to Input voltage
Output Frequency	0 to 320 Hz
Output Frequency Resolution	0.01 Hz
Efficiency	>97.5%
Overload Capacity	1.1 * nominal rated output current 110% for 1 minute/10 minutes
PWM (switching) frequency	FS4 to FS6 - 1.5 to 10 kHz <i>Default FS4: 6 kHz; FS5: 4 kHz; FS6 = 4 kHz</i> FS7 to FS9 - 1.5 to 6 kHz <i>Default FS7: 4 kHz; FS8: 3 kHz; FS9: 2kHz</i> Adjustable in .1 kHz increments Automatic switching frequency derating in case of overheating
Short circuit withstand rating	100,000 AIC
Frequency Reference Analog Input Keypad	Resolution 0.01 to 0.1% (10 bit), accuracy ±1% Resolution 0.01 Hz
Field weakening point	8 to 320 Hz
Acceleration time	0.1 to 3000.0 seconds
Deceleration time	0.1 to 3000.0 seconds
Ambient Operating Temperature	14°F (-10°C) (no frost) to 104°F (40°C) up to 122°F (50°C) with derating
Storage Temperature	-40°F (-40°C) (no frost) to 158°F (70°C)
Relative Humidity	0 to 95% rh, non-condensing, non-corrosive
Air quality: Chemical vapors Mechanical particles	IEC 60068-2-60 (H ₂ S [hydrogen sulfide] and SO ₂ [sulfur dioxide]). IEC 60721-3-3, unit in operation, class 3C2 IEC 60721-3-3, unit in operation, class 3S3.
Altitude	100% load capacity (no-derating) up to 3,280 ft (1,000 m) -1% derating for each 328 ft (100 m) above 3,280 ft (1,000 m) Maximum altitude: 208 to 240 Vac: 13,123 ft (4,000 m) 380 to 500 Vac: 13,123 ft (4,000 m) 525 to 600 Vac: 6,562 ft (2,000 m) Voltage for relay outputs: 240 Vac: ≤ 9,842 ft (3,000 m) 120 Vac: ≤ 13,123 ft (4,000 m) Corner-grounding (380-500 Vac systems only): ≤ 6,562 ft (2,000 m)
Fixed frequencies	7 programmable
Skip (prohibited) frequency band	3 programmable
Vibration	EN61800-5-1 EN60068-2-6
Seismic	2012 International Building Code (IBC)
Shock	EN61800-5-1 EN60068-2-27
Enclosure Class	UL Type 1/IP 21 standard in entire HP/kW range. UL Type 12/IP 54 options

Specification	Description
EMC Immunity	Fulfills IEC 61800-3 (2004), first and second environment
EMC Emissions	EN61800-3 (2004) Category C2 Can be field modified for IT networks for C3 or C4 ratings.
Embedded Protocols	RS-485: APOGEE P1, BACnet MS/TP (BTL), Modbus RTU, Metasys N2 Ethernet: BACnet IP (BTL), Modbus TCP
Heatsink cooling fan noise level in dB (low speed/high speed)	FS4: 45/56 FS5: 57/65 FS6: 63/72 FS7: 43/73 FS8: 58/73 FS9: 54/75
Heatsink cooling fan output	FS4: 49 CFM FS5: 88 CFM FS6: 219 CFM FS7: 159 CFM FS8: 426 CFM FS9: 560 CFM
Agency Approvals/Conformity	UL 508C; UL; cUL; CE; BTL,RoHS compliant; EN61800-5-1 (2007).
Country Of Origin (COO)	Finland
Control Method	Linear, parabolic and programmable V/f; and flux current control low-power mode.
Control I/O: Analog Inputs Analog Outputs Digital Inputs Relay Outputs	2 - voltage (0/2 to 10 Vdc) or current (0/4 to 20 mA) Resolution 0.1%; Accuracy $\pm 1\%$ 1 - voltage (0/2 to 10 Vdc) or current (0/4 to 20 mA) <500 W; Resolution 0.1%; Accuracy $\pm 1\%$ 6 - programmable and isolated Positive or Negative logic; 5 kW; 0 to 5 Vdc = 0; 15 to 30 Vdc = 1 2 - Form C and 1 Normally Open 24 Vdc @ 8A; 250 Vac @ 8A; 125 Vac @ 0.4A
Auxiliary input	24 Vdc $\pm 10\%$, 250 mA
Auxiliary output	10 Vdc $\pm 3\%$, 10 mA (short-circuit protected) 24 Vdc $\pm 10\%$, 250 mA (short-circuit protected)
Embedded Protocols	RS-485: APOGEE P1, BACnet MS/TP, Modbus RTU, Metasys N2 Ethernet: BACnet IP, Modbus TCP
Over voltage trip limit	208 to 240 Vac: 456 Vdc 380 to 500 Vac: 911 Vdc 525 to 600 Vac: 1094 Vdc
Under voltage trip limit	Depends on supply voltage (0.8775* supply voltage): 208 Vac: 182.5 Vdc 240 Vac: 210.6 Vdc 380 Vac: 333.5 Vdc 480 Vac: 421.2 Vdc 575 Vac: 504.6 Vdc
Protection features	Under-voltage trip limit Over-voltage trip limit Ground fault protection Input (mains) supervision Motor phase supervision Over-current protection Unit over-temperature protection Motor overload protection Motor stall protection Motor underload protection Short-circuit protection of 10 Vdc and 24 Vdc reference voltages

Specifications, Continued

Table 2. Control Board Technical Specifications.

Slot A		
Terminal	Signal/Description	Specification
1	+10 Vdc Reference Output	+3%; Maximum current 10 mA
2	Analog Input 1 Signal (+)	0 to 10 Vdc (200K Ohm) or 0 to 20 mA (250K Ohm) (selection using DIP switch) Resolution: 0.1%, Accuracy: $\pm 1\%$; Short-circuit protected.
3	Analog Input 1 Common (-)	
4	Analog Input 2 Signal (+)	0 to 10 Vdc (200K Ohm) or 0 to 20 mA (250K Ohm) (selection using DIP switch) Resolution: 0.1%, Accuracy: $\pm 1\%$; Short-circuit protected.
5	Analog Input 2 Common (-)	
6	24 Vdc Output Voltage	$\pm 10\%$; Maximum 250 mA;
7	I/O Ground	Short-circuit protected.
8	Digital Input 1	Positive or negative logic; 0 Vdc to 5 Vdc = 0 ; 15 Vdc to 30 Vdc = 1
9	Digital Input 2	
10	Digital Input 3	
11	Common for DI 1 through DI 6	Digital inputs can be isolated from ground.
12	24 Vdc Output Voltage	$\pm 10\%$; Maximum 250 mA;
13	I/O Ground	Short-circuit protected.
14	Digital Input 4	Positive or negative logic; 0 Vdc to 5 Vdc = 0 ; 15 Vdc to 30 Vdc = 1
15	Digital Input 5	
16	Digital Input 6	
17	Common for DI 1 through DI 6	Digital inputs can be isolated from ground.
18	Analog Output 1 Signal (+)	0 to 10 Vdc or 0 to 20 mA (selection using DIP switch)
19	Analog Output 1 Common (-)	Resolution: 0.1%, Accuracy: $\pm 1\%$
30	24 Vdc Input Voltage	$\pm 10\%$; Maximum 250 mA; Used for power backup of control unit.
A	RS-485 -	Fieldbus Negative
B	RS-485 +	Fieldbus Positive
Slot B		
Terminal	Signal/Description	Specification
21	Relay Output 1 Normally Closed	Switching capacity: 24 Vdc/8A; 250 Vac/8A; 125 Vdc/0.4A Minimum switch load: 5 Vdc/10 mA
22	Relay Output 1 Common	
23	Relay Output 1 Normally Open	
24	Relay Output 2 Normally Closed	Switching capacity: 24 Vdc/8A; 250 Vac/8A; 125 Vdc/0.4A Minimum switch load: 5 Vdc/10 mA
25	Relay Output 2 Common	
26	Relay Output 2 Normally Open	
32	Relay Output 2 Common	Switching capacity: 24 Vdc/8A; 250 Vac/8A; 125 Vdc/0.4A Minimum switch load: 5 Vdc/10 mA

Specifications, Continued

Table 3. Embedded Protocol Technical Data.

Description	APOGEE P1	BACnet MS/TP	Modbus RTU	Metasys N2	BACnet IP	Modbus TCP
Interface	RS-485				100BaseT, 802.3	
Data Transfer Method	RS-485, half-duplex				Ethernet half/full duplex	
Transfer Cable	STP (Shielded Twisted Pair), type Belden 9841 or similar				CAT5e STP	
Connector	14 AWG (2.5 mm ²)				Shielded RJ45	
Baud Rate(s)	4800, 9600	9600, 19200, 38400, 76800	300, 600, 1200, 2400, 4800, 9600, 19200, 38400, 57600, 76800, 115200, 230400	9600	10/100 Mbps/s, auto-sensing	
Address	0 to 127	0 to 127	1 to 247	1 to 255	N/A	

Table 4. Output Ratings.

Voltage (±10%)	HP	kW	Frame Size	UL Type 1	UL Type 12	UL Type 12 w/Disconnect	Output Current
208 Vac to 240 Vac (3-Phase)	1	0.75	4	BT300-001X2-01X	BT300-001X2-12X	BT300-001X2-12D	4.8
	1.5	1.1		BT300-00152-01X	BT300-00152-12X	BT300-00152-12D	6.7
	2	1.5		BT300-002X2-01X	BT300-002X2-12X	BT300-002X2-12D	8.0
	3	2.2		BT300-003X2-01X	BT300-003X2-12X	BT300-003X2-12D	11.0
	5	4	5	BT300-005X2-01X	BT300-005X2-12X	BT300-005X2-12D	18.0
	7.5	5.5		BT300-00752-01X	BT300-00752-12X	BT300-00752-12D	24.2
	10	7.5		BT300-010X2-01X	BT300-010X2-12X	BT300-010X2-12D	31.0
	15	11	6	BT300-015X2-01X	BT300-015X2-12X	BT300-015X2-12D	48.0
	20	15		BT300-020X2-01X	BT300-020X2-12X	BT300-020X2-12D	62.0
	25	18.5	7	BT300-025X2-01X	BT300-025X2-12X	BT300-025X2-12D	75.0
	30	22		BT300-030X2-01X	BT300-030X2-12X	BT300-030X2-12D	88.0
	40	30		BT300-040X2-01X	BT300-040X2-12X	—	105.0
	50	37	8	BT300-050X2-01X	BT300-050X2-12X	—	143.0
	60	45		BT300-060X2-01X	BT300-060X2-12X	—	170.0
230 Vac to 240 Vac (3-Phase)	75	55	8	BT300-075X2-01X	BT300-075X2-12X	—	208.0
	100	75	9	BT300-100X2-01X	BT300-100X2-12X	—	261.0
	125	90		BT300-125X2-01X	BT300-125X2-12X	—	310.0

Table 4. Output Ratings, Continued.

Voltage (±10%)	HP	kW	Frame Size	UL Type 1	UL Type 12	UL Type 12 w/Disconnect	Output Current
380 Vac to 500 Vac (3-Phase)	1.5	1.1	4	BT300-00154-01X	BT300-00154-12X	BT300-00154-12D	3.4
	2	1.5		BT300-002X4-01X	BT300-002X4-12X	BT300-002X4-12D	4.8
	3	2.2		BT300-003X4-01X	BT300-003X4-12X	BT300-003X4-12D	5.6
	5	4		BT300-005X4-01X	BT300-005X4-12X	BT300-005X4-12D	9.6
	7.5	5.5		BT300-00754-01X	BT300-00754-12X	BT300-00754-12D	12.0
	10	7.5	5	BT300-010X4-01X	BT300-010X4-12X	BT300-010X4-12D	16.0
	15	11		BT300-015X4-01X	BT300-015X4-12X	BT300-015X4-12D	23.0
	20	15		BT300-020X4-01X	BT300-020X4-12X	BT300-020X4-12D	31.0
	25	18.5	6	BT300-025X4-01X	BT300-025X4-12X	BT300-025X4-12D	38.0
	30	22		BT300-030X4-01X	BT300-030X4-12X	BT300-030X4-12D	46.0
	40	30		BT300-040X4-01X	BT300-040X4-12X	BT300-040X4-12D	61.0
	50	37	7	BT300-050X4-01X	BT300-050X4-12X	BT300-050X4-12D	72.0
	60	45		BT300-060X4-01X	BT300-060X4-12X	BT300-060X4-12D	87.0
	75	55		BT300-075X4-01X	BT300-075X4-12X	—	105.0
	100	75	8	BT300-100X4-01X	BT300-100X4-12X	—	140.0
	125	90		BT300-125X4-01X	BT300-125X4-12X	—	170.0
	150	110		BT300-150X4-01X	BT300-150X4-12X	—	205.0
	200	132	9	BT300-200X4-01X	BT300-200X4-12X	—	261.0
	250	160		BT300-250X4-01X	BT300-250X4-12X	—	310.0
525 Vac to 600 Vac (3-Phase)	3	2.2	5	BT300-003X6-01X	BT300-003X6-12X	BT300-003X6-12D	3.9
	5	4		BT300-005X6-01X	BT300-005X6-12X	BT300-005X6-12D	6.1
	7.5	5.5		BT300-00756-01X	BT300-00756-12X	BT300-00756-12D	9.0
	10	7.5		BT300-010X6-01X	BT300-010X6-12X	BT300-010X6-12D	11.0
	15	11		BT300-015X6-01X	BT300-015X6-12X	BT300-015X6-12D	18.0
	20	15	6	BT300-020X6-01X	BT300-020X6-12X	BT300-020X6-12D	22.0
	25	18.5		BT300-025X6-01X	BT300-025X6-12X	BT300-025X6-12D	27.0
	30	22		BT300-030X6-01X	BT300-030X6-12X	BT300-030X6-12D	34.0
	40	30		BT300-040X6-01X	BT300-040X6-12X	BT300-040X6-12D	41.0
	50	37	7	BT300-050X6-01X	BT300-050X6-12X	BT300-050X6-12D	52.0
	60	45		BT300-060X6-01X	BT300-060X6-12X	—	62.0
	75*	55		BT300-075X6-01X	BT300-075X6-12X	—	80.0
	100*	75	8	BT300-100X6-01X	BT300-100X6-12X	—	100.0
	125*	90		BT300-125X6-01X	BT300-125X6-12X	—	125.0
	150	110		BT300-150X6-01X	BT300-150X6-12X	—	144.0
	200	132	9	BT300-200X6-01X	BT300-200X6-12X	—	208.0

Accessories

Table 5. Frame Size-Specific Accessories

Accessory Description		Frame Size		
		4	5	6
NEMA 1 to NEMA 12 Upgrade	NEMA 12 Cover	BT300-CVR-54-FS4	BT300-CVR-54-FS5	BT300-CVR-54-FS6
	NEMA 12 Gland Plate	BT300-EDPLT-54-FS4	BT300-EDPLT-54-FS5	BT300-EDPLT-54-FS6
	Internal Fan (C1407xxxx and earlier)	BT300-INTFAN-FS4	BT300-INTFAN-FS5	BT300-INTFAN-FS6
	Internal Fan (C1408xxxx and later)	BT300-INTFAN-456-F	BT300-INTFAN-456-F	BT300-INTFAN-456-F
Accessories Kit		BT300-ACCKIT-FS4	BT300-ACCKIT-FS5	BT300-ACCKIT-FS6
Flange Mount Kit		BT300-FLG-FS4	BT300-FLG-FS5	BT300-FLG-FS6
Main Fan (heatsink)		BT300-MFAN-FS4	BT300-MFAN-FS5	BT300-MFAN-FS6
NEMA 1 Cover		BT300-CVR-21-FS4	BT300-CVR-21-FS5	BT300-CVR-21-FS6
NEMA 1 Gland Plate		BT300-EDPLT-N1-FS4	BT300-EDPLT-N1-FS5	BT300-EDPLT-N1-FS6

Accessory Description		Frame Size		
		7	8	9
NEMA 1 to NEMA 12 Upgrade	NEMA 12 Cover	BT300-CVR-2154-FS7	BT300-CVR-2154-FS8	N/A
	NEMA 12 Gland Plate	N/A	N/A	N/A
	Internal Fan (C1407xxxx and earlier)	BT300-INTFAN-FS7	BT300-INTFAN-FS8	BT300-INTFAN-FS9
	Internal Fan (C1408xxxx and later)			
Accessories Kit		BT300-ACCKIT-FS7	BT300-ACCKIT-FS8	BT300-ACCKIT-FS9
Flange Mount Kit		BT300-FLG-FS7	N/A	N/A
Main Fan (heatsink)		BT300-MFAN-FS7	BT300-MFAN-FS8	BT300-MFAN-FS9
NEMA 1 Cover		BT300-CVR-2154-FS7	BT300-CVR-2154-FS8	N/A
NEMA 1 Gland Plate		N/A	N/A	N/A

Table 6. Accessories.

Part Number	Description
BT300-BATTERY	Battery package (5 pcs)
BT300-BATTERY-F	Battery package (5 pcs) for use with s/n 1408xxx and later
BT300-BYP-DEMO	VFD and Electronic Bypass Demo with carrying case
BT300-CABLE	USB to RS422 interface cable for computer-to-drive connection
BT300-CNTLUNIT	Control Module
BT300-CNTLUNIT-F	Control Module for use with s/n 1408xxx and later
BT300-HHPANEL	Hand held panel kit with magnetic base
BT300-KEYPAD	Graphical keypad
BT300-OPT-B1-V	Option board with six bi-directional terminals (digital input or digital output)
BT300-OPT-B2-V	Option board with one thermistor input and two relay outputs
BT300-OPT-B4-V	Option board with one analog input and two analog outputs
BT300-OPT-B5-V	Option board with three relay outputs
BT300-OPT-B9-V	Option board with five digital inputs and one relay output
BT300-OPT-BF-V	Option board with one analog output, one digital output and one relay output
BT300-OPT-BH-V	Option board with three analog inputs (for PT100, PT1000, NI 1000, KTY-84)
BT300-OPT-C4-V	Option board with integration to LonWorks fieldbus
BT300-PNL-N12	NEMA 12 door keypad mounting kit

Dimensions

Table 7. Overall Dimensions for BT300 Type 1 and Type 12 in Inches (Millimeters).

Frame Size	Height	Width	Depth (without Disconnect)	Depth (with Disconnect)	Weight lb (kg)
FS4	12.9 (328)	5.0 (128)	7.5 (190)	10.6 (270)	13.0 (6)
FS5	16.5 (419)	5.7 (144)	8.4 (214)	11.6 (294)	22.0 (10)
FS6	21.9 (557)	7.7 (195)	9.0 (229)	11.9 (302)	44.0 (20)
FS7	26.0 (660)	9.3 (237)	10.2 (259)	13.1 (332)	83.0 (37.5)
FS8	38.0 (966)	11.4 (290)	13.5 (343)	N/A	145.5 (66)
FS9	45.3 (1150)	18.9 (480)	14.4 (365)	N/A	238.0 (108)

Dimensions, Continued

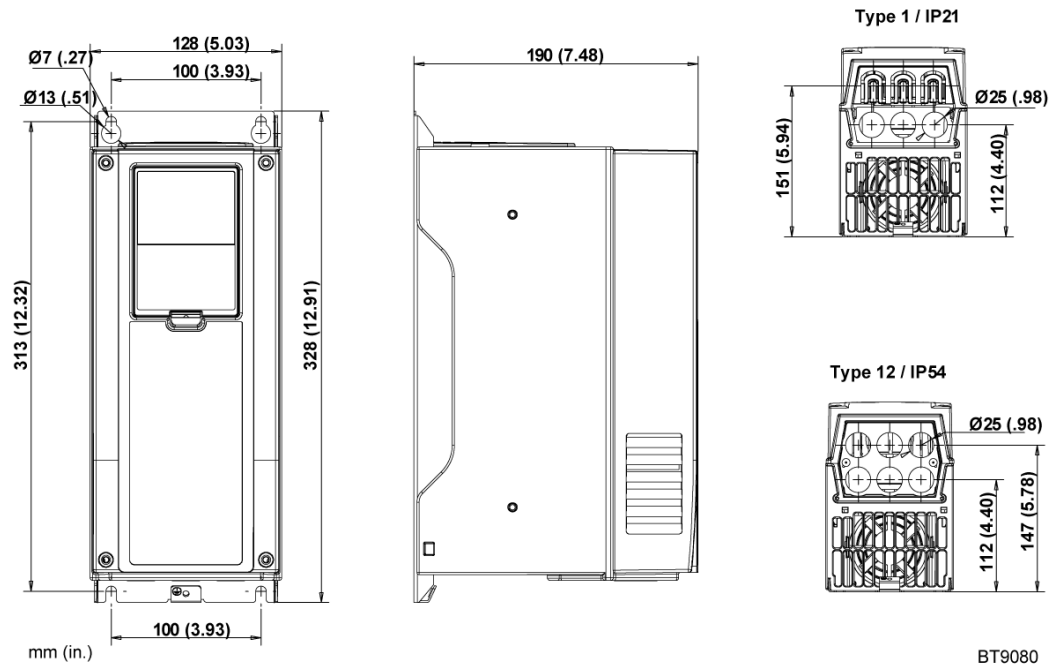


Figure 2. Siemens Drive Dimensions, FS4, Wall-Mount.

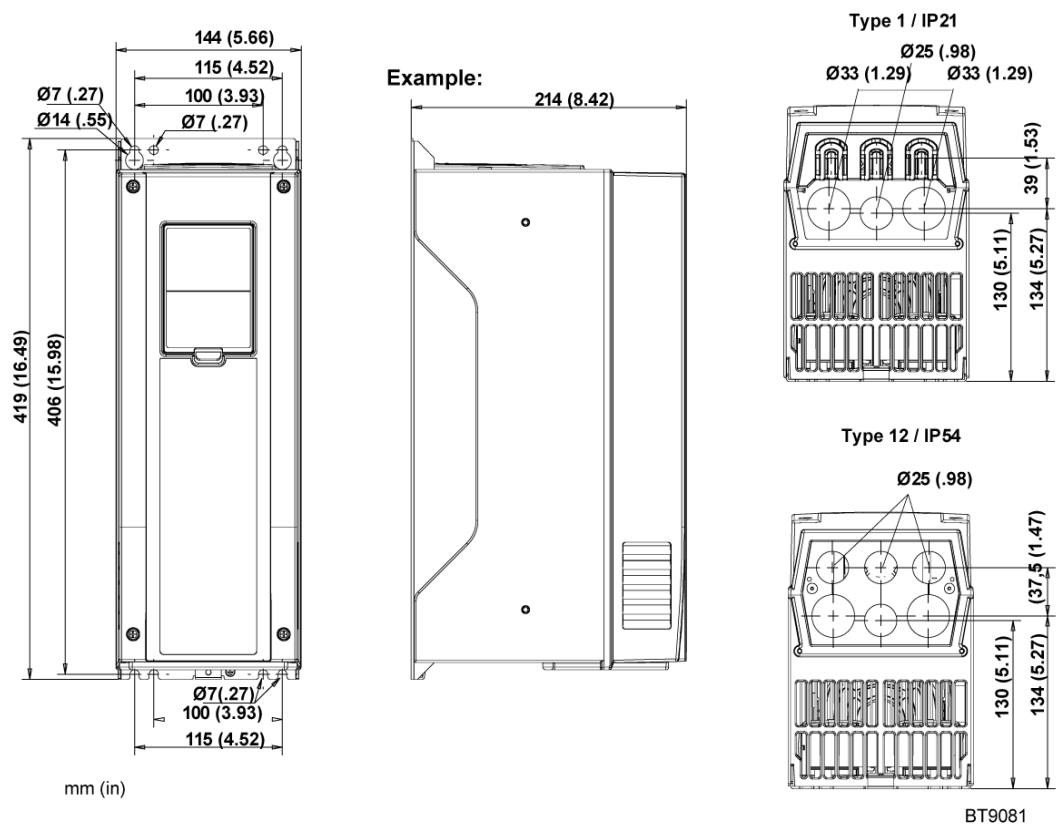


Figure 3. Siemens Drive Dimensions, FS5, Wall-Mount.

Dimensions, Continued

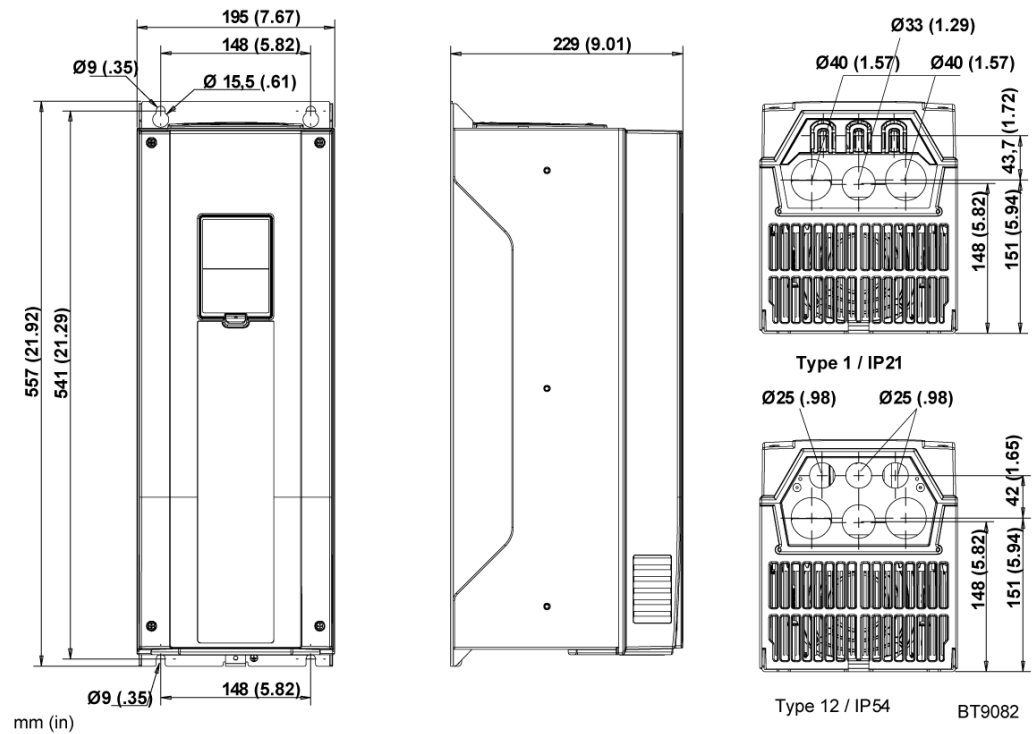


Figure 4. Siemens Drive Dimensions, FS6, Wall-Mount.

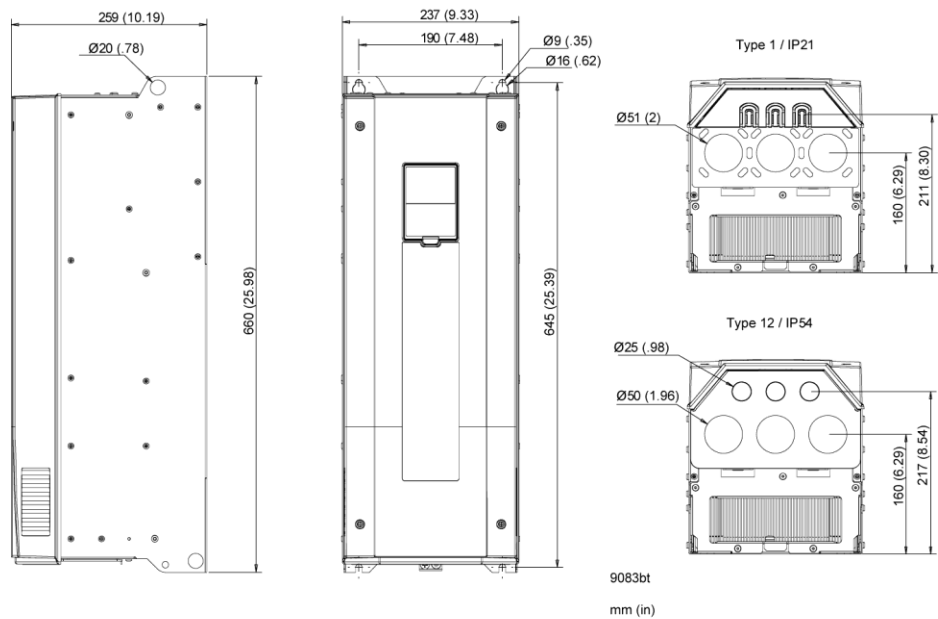


Figure 5. Siemens Drive Dimensions, FS7, Wall-Mount.

Dimensions, Continued

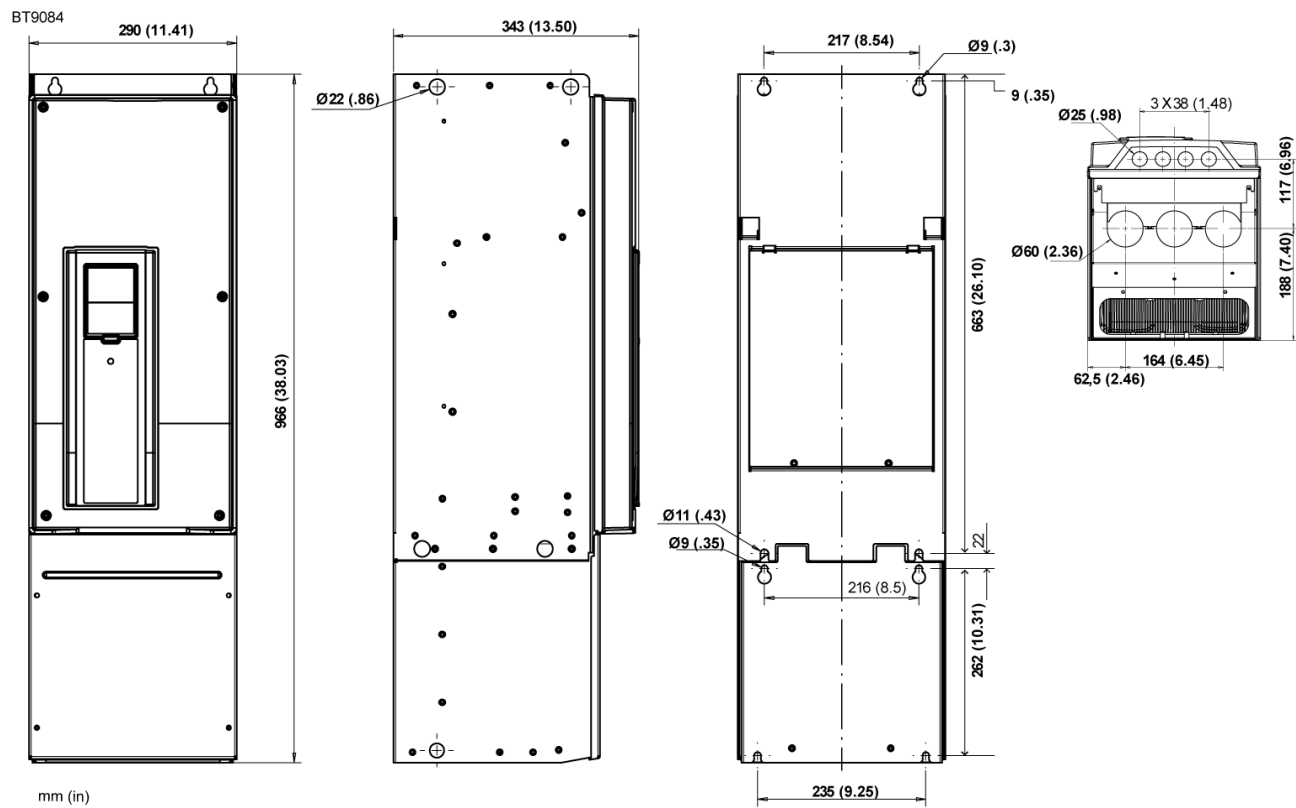


Figure 6. Siemens Drive Dimensions, FS8.

Dimensions, Continued

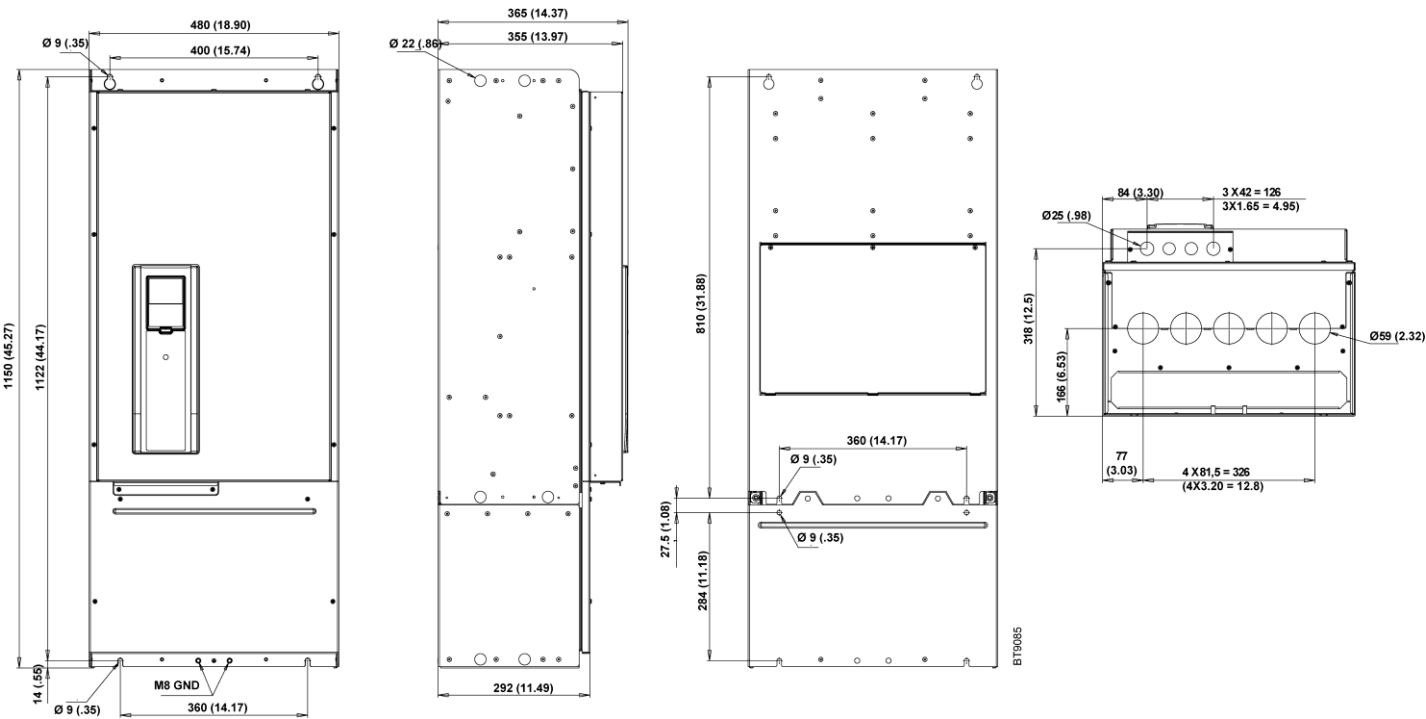
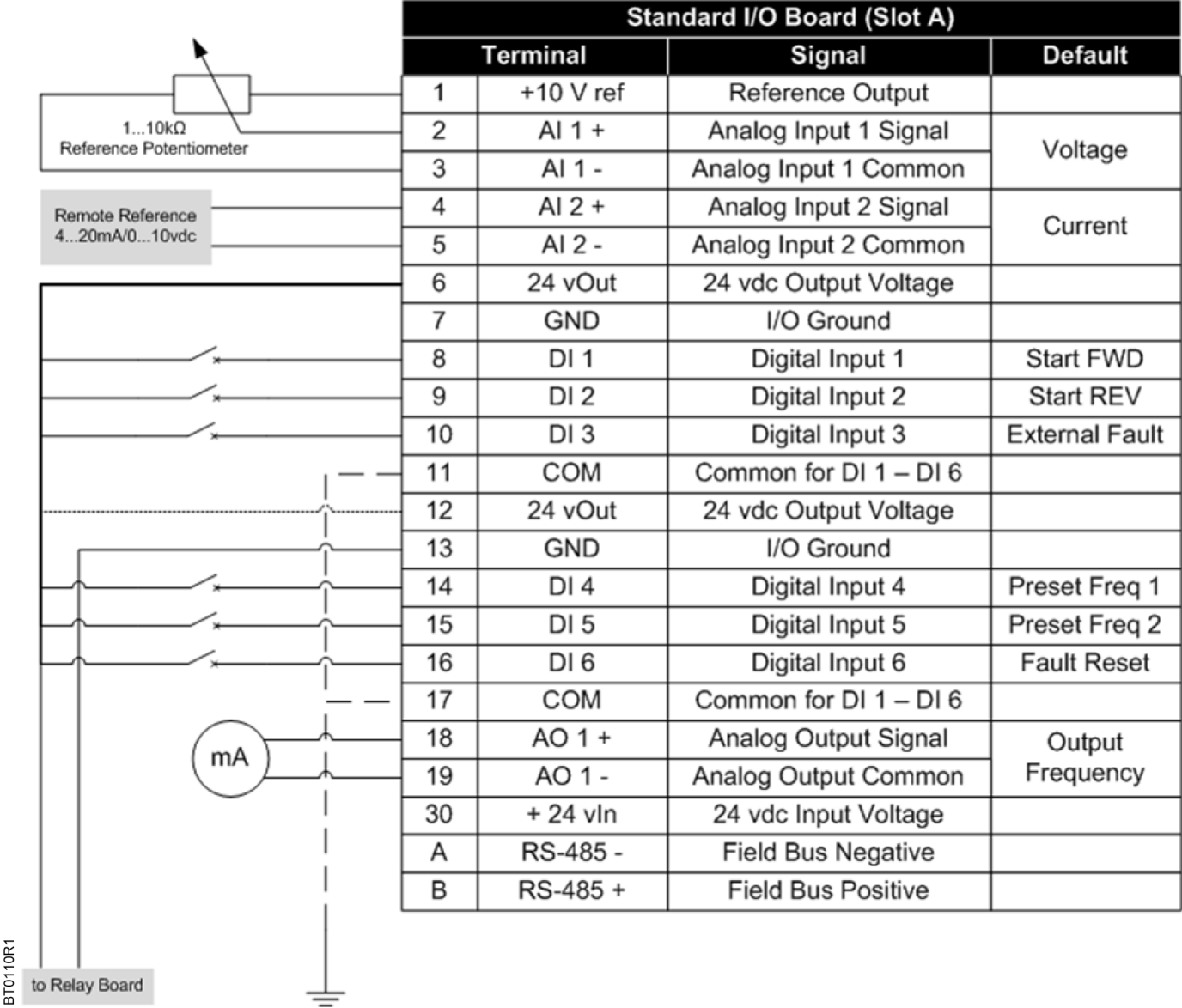


Figure 7. Siemens Drive Dimensions, FS9.

Wiring Diagrams

Table 8. Control I/O Terminal Signals on Basic IO Board and Connection Example.



* Digital inputs can be isolated from ground.

Table 9. Order Worksheet.

[illegible]

Information in this document is based on specifications believed correct at the time of publication. The right is reserved to make changes as design improvements are introduced. APOGEE is a registered trademark of Siemens Industry, Inc. Product or company names mentioned herein may be the trademarks of their respective owners. © 2019 Siemens Industry, Inc.