



SIEMENS



BT300™ Variable Frequency Drive with Conventional or Electronic Bypass

Ultra-reliable bypass options  
create ultimate peace-of-mind.

The perfect power solution at a great value.

Answers for infrastructure and cities.

# Unstoppable power.

The BT300 VFD with Conventional or Electronic Bypass: One compact design, two bypass options, and non-stop coverage for demanding HVAC environments.



The BT300 VFD with Bypass ensures the HVAC equipment at mission critical facilities runs continuously and efficiently.

- Laboratories
- Data Centers
- Airports
- Hospitals

An increased focus on energy efficiency of variable flow systems has increased the need for easy-to-use and highly reliable Variable Frequency Drives. Facilities need devices that help reduce installation time and maintenance costs, while maximizing energy savings and optimizing occupant comfort. Additionally, half of today's drive specifications require bypass functionality. To meet these growing needs, Siemens is introducing the BT300 Variable Frequency Drive offering with Conventional or Electronic Bypass options.

The BT300 VFD with Conventional or Electronic Bypass is designed with the same sophisticated and industry-leading features of the BT300 VFD. This provides peace-of-mind to customers in mission critical facilities.

The Conventional Bypass utilizes selector switches and indicator lights as primary functions.

The Electronic Bypass utilizes internal control boards that act as the brains and eliminate the control wiring, relay logic, and terminal blocks. They are replaced with advanced built-in features that are accessible from an electronic keypad.

VFDs with Conventional or Electronic Bypass are built for North America and assembled in the USA. Integrating the same sophisticated features and easy-to-use menu structure found in a BT300 VFD makes the installation and commissioning of a BT300 VFD with Bypass quick and easy.



## Reduce installation time and maintenance costs with either option:

**On-board Ethernet** – Lead the way with the first VFD with bypass that offers on-board Ethernet. All standard HVAC protocols are ready for “out of the box” installation. Ethernet and RS-485 connections are included for APOGEE® P1, BACnet IP and MS/TP, Modbus RTU/TCP, and Metasys N2. Since communication is built into the drive, there is no need for a cabinet, power supply, converter, or extra cabling. This saves time during installation.

**5% Impedance with Harmonic Filters** – Protect against distortion, especially in sensitive areas, such as laboratories, data centers, airports, and hospitals.

**Seismic Certification** – Meets International Building Code 2012 Standard for confident coverage of critical systems after a seismic event.

**Rugged Housing, Compact Footprint** – Helps lower shipping costs, makes installation easy, and ensures long-lasting performance in demanding HVAC environments.

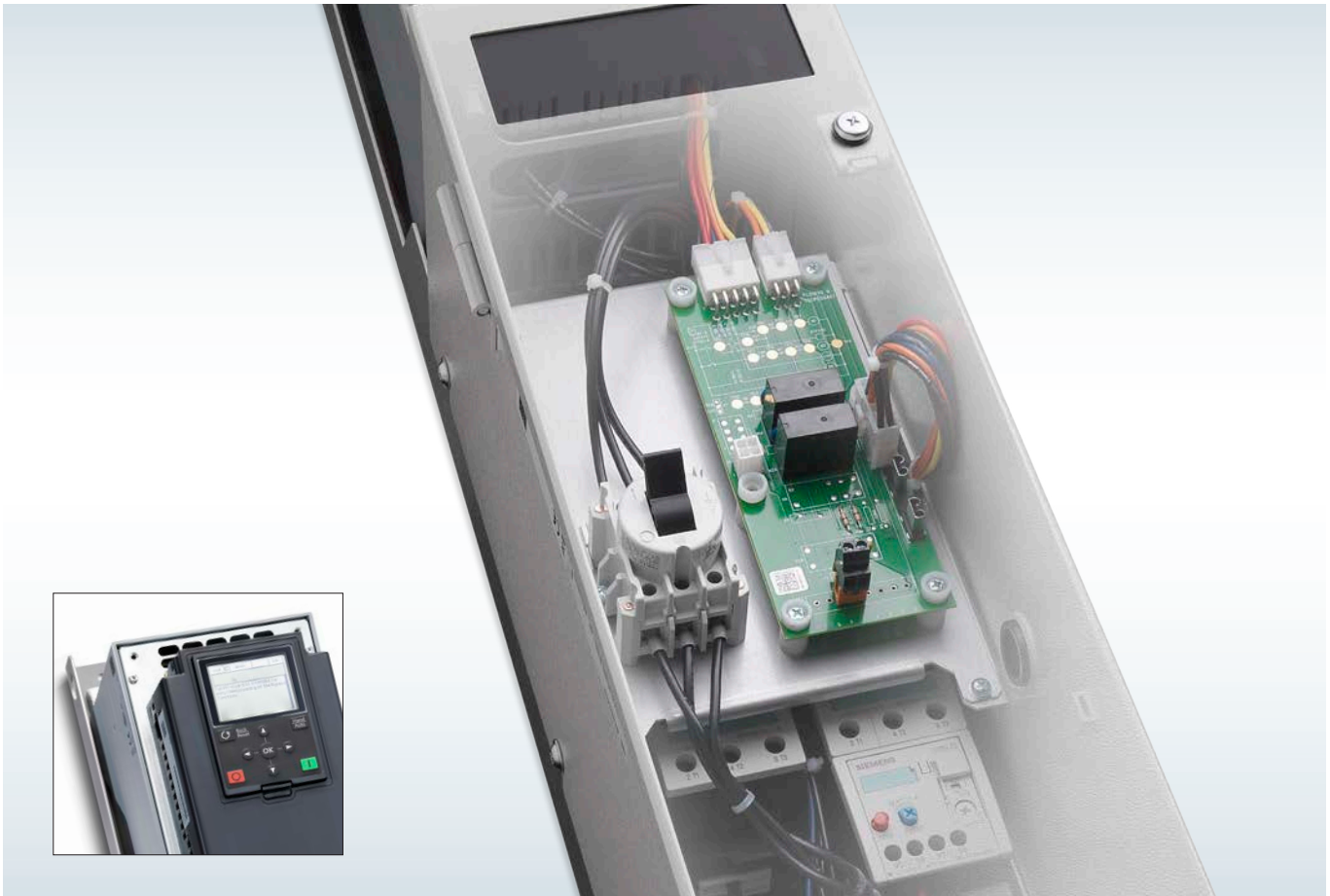
**Diagnostic Board** – Allows the drive to continue to run while servicing the bypass. Easily accessible test points enable troubleshooting of the bypass components and their functionality while energized. A fusible link prevents electrical damage to the bypass circuitry.

**Safety Switch** – While in bypass mode, the drive can be replaced without de-energizing power to the driven equipment. There's no need to remove fuses or fuse blocks and no equipment down time when replacing the drive.

# Departures 3

Vertrekkende vluchten Flight departures	
06:00	AA 1111 Amsterdam
06:15	KL 6666 Frankfurt
06:30	BA 2222 London
06:45	AF 3333 Paris
07:00	DL 4444 New York
07:15	UA 5555 Chicago
07:30	SW 7777 Stockholm
07:45	SK 8888 Copenhagen
08:00	WZ 9999 Warsaw
08:15	LO 1111 Bratislava
08:30	OS 2222 Vienna
08:45	6U 3333 Prague
09:00	RY 4444 Riga
09:15	BT 5555 Tallinn
09:30	EW 6666 Berlin
09:45	4U 7777 Munich
10:00	3U 8888 Zurich
10:15	YB 9999 Bern
10:30	8L 1111 Lugano
10:45	5Y 2222 Milan
11:00	IG 3333 Rome
11:15	6E 4444 Athens
11:30	PC 5555 Barcelona
11:45	VY 6666 Madrid
12:00	IB 7777 Valencia
12:15	U2 8888 Seville
12:30	W6 9999 Malaga
12:45	FR 1111 Canary Islands
13:00	TP 2222 Lisbon
13:15	CM 3333 Madrid
13:30	AD 4444 Porto
13:45	MA 5555 Faro
14:00	NT 6666 Ponta Delgada
14:15	TP 7777 Madeira
14:30	W6 8888 Madeira
14:45	MA 9999 Madeira
15:00	TP 1111 Madeira
15:15	MA 2222 Madeira
15:30	TP 3333 Madeira
15:45	MA 4444 Madeira
16:00	TP 5555 Madeira
16:15	MA 6666 Madeira
16:30	TP 7777 Madeira
16:45	MA 8888 Madeira
17:00	TP 9999 Madeira
17:15	MA 1111 Madeira
17:30	TP 2222 Madeira
17:45	MA 3333 Madeira
18:00	TP 4444 Madeira
18:15	MA 5555 Madeira
18:30	TP 6666 Madeira
18:45	MA 7777 Madeira
19:00	TP 8888 Madeira
19:15	MA 9999 Madeira
19:30	TP 1111 Madeira
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23:00	TP 6666 Madeira
23:15	MA 7777 Madeira
23:30	TP 8888 Madeira
23:45	MA 9999 Madeira





**Both Bypass Options Feature:  
Advanced Keypad with Start-Up  
Wizards and Displays**

- Built-in simplicity with an intuitive, easy-to-use Bypass Start-up Wizard
- Nine user-defined values of Drive or Bypass can be monitored and displayed at one time
- Graphical keypad features help texts and clear fault info including possible causes and remedies

**Conventional Bypass Features:  
Two Drive Bypass Configuration  
Options**

Choose either the two contactors and a service switch, or the traditional three-contactor configuration. Selector switches and indicator lights are incorporated for primary functions.

**22 mm Components with  
Wide Viewing Angle**

Industrial style operators and lights have a longer life and require less maintenance.

**Electronic Bypass Features:  
Full Bypass Control –  
Even if the Bypass Board Fails**

If the bypass control board malfunctions, the Electronic Diagnostic Board provides an override switch input to allow the motor to continue to run in bypass.

**Auto Bypass**

Bypass can be auto-activated based on the drive's programmable relay.

**Pass Through I/O**

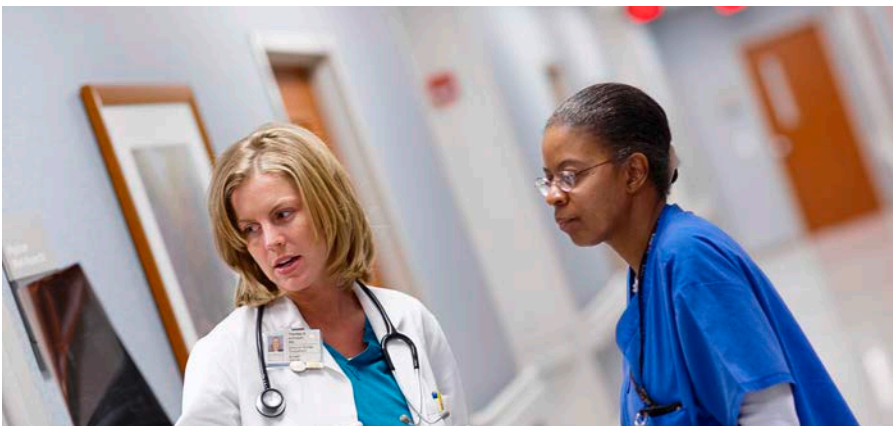
Monitor and display up to 8 safety interlocks. For easy troubleshooting, read the status of all 12 I/O points of the drive, plus up to 8 additional inputs.

**Additional HVAC I/O Capability**

For external safety systems, PID loops, and external device control and monitoring.

**Essential Service**

This system override enhances operator safety by eliminating the drives from the control scheme and running the motor in bypass mode.



# Product Ordering

<b>Your Product Number</b>																		
<b>Example Product Number</b>				B	T	E	-	0	4	0	X	4	-	B	0	1	2	L
<b>Model(s)</b>																		
BTC		Conventional																
BTE		Electronic																
<b>HP</b>																		
1, 1.5, 2, 3, 5, 7.5, 10, 15																		
20, 25, 30, 40, 50, 60, 75																		
100, 125, 150, 200, 250																		
X=no fract HP																		
5= 1/2 hp																		
<b>Voltage</b>																		
2		200 to 240																
4		380 to 480																
<b>Disconnect</b>																		
F		Fused Disconnect																
B		Circuit Breaker																
<b>Enclosure</b>																		
01		Enclosure Type 1																
<b>Contactor</b>																		
3		3 contactors (input/output and bypass contactors) (Conventional option only)																
2		2 contactor bypass with service switch																
<b>Options</b>																		
L		Lon Card Installed																

**Example shown:**

BTE-040X4-B012L

BT300 Electronic Bypass, 480 volt, 40 hp, Type 1, circuit breaker and 2 contactor bypass with a service switch and Lon card installed in drive.

**Frame Sizes and Power Ranges**

Voltage	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	
	HP	1	1.5	2	3	5	7.5	10	15	20	25	30	40	50	60	75	100	125	150	200	250	
208V	Frame Size	4				5			6		7			8			9		NA			
480V		N/A	4				5			6			7			8		9				

**Type 1 Bypass Approximate Weights**

Frame Size	4	5	6	7	8 and 9
Weight lbs. (kg)	50 (23)	69 (31)	112 (51)	187 (85)	1000 (454)

**NOTE:** VFD products are only available through authorized distribution channels.

To locate an authorized distributor, please contact a Siemens Building Technologies representative at 1.800.515.9964.

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**Answers for infrastructure and cities.**

Our world is undergoing changes that force us to think in new ways: demographic change, urbanization, global warming and resource shortages. Maximum efficiency has top priority – and not only where energy is concerned. In addition, we need to increase comfort for the well-being of users. Also, our need for safety and security is constantly growing. For our customers, success is defined by how well they manage these challenges. Siemens has the answers.

**“We are the trusted technology partner for energy-efficient, safe and secure buildings and infrastructure.”**