



Submittal Data Information

SmartDRIVE Basic Adjustable Frequency Drives

301-2130

EFFECTIVE: October 1, 2012

SUPERSEDES: June 1, 2012

JOB _____

ENGINEER _____

CONTRACTOR _____

REP. _____

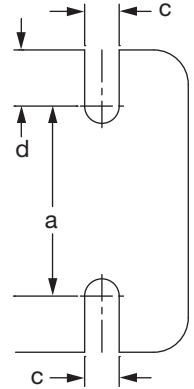
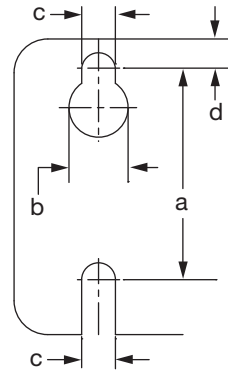
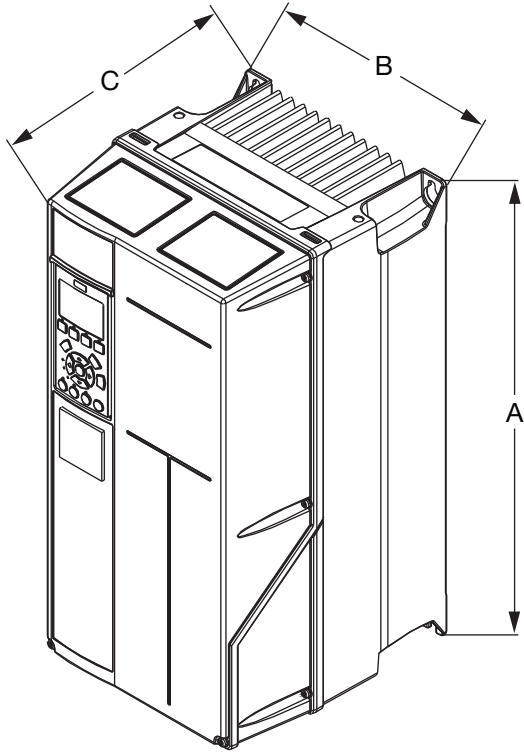
ITEM NO. _____

Product range: 200 - 240 V / 3 phase 0.33 - 60 HP
380 - 480 V / 3 phase 0.5 - 125 HP
525 - 600 V / 3 phase 3 - 125 HP

Available enclosure ratings: NEMA Type 1 / IP 21 (separate option kit)

MOTOR DESIGN DATA	
HP	
Volts	
Frequency	Hz
Phase	
FEATURE	BENEFIT
Flying Start	Reduced mechanical wear on equipment
Most common HVAC protocols for BMS controller connectivity are embedded	Less extra gateway solutions needed
Built-in PI Controller	No external PI controller required
Smart Logic Controller	Often makes PLC unnecessary
Integrated fan, pump functionality	Saves external control and conversion equipment
Fire Override Mode	Enhanced safety
Automatic Energy Optimizer function	Saves additional 5 - 15% energy
Sleep Mode	Energy saving and extended lifetime
NEMA Type 1 / IP 21	Enclosures to fit your needs up to 90 kW
Robust single enclosure	Maintenance-free
Unique cooling concept with no forced air flow over electronics	Problem-free operation in harsh environments
Maximum ambient temperature up to 50°C	No external cooling
Easy connectability	Effective commissioning and operation
Display in engineering units	Alpha numeric display / improved HMI
Start-up wizard	Drive set up fast and easy
Auto restart	Saves time and money
Bypass frequencies	Less noise and vibrations / resonances
Global HVAC support organization	Local service - globally
Built-in EMC filter	Meets protection class C1, C2 or C3
Harmonic suppression - integrated dual DC-link choke	Dual DC-link choke (Equivalent: 5% AC input line reactor) Supporting IEEE 519-1992 requirements
Thermistor input	Prevents motor overheating

MECHANICAL DRAWINGS



MAXIMUM DIMENSIONS and WEIGHTS

Frame Size	Power Range – HP (kW)			Enclosure – Inches (mm)			Max Weight Lbs (Kg)
	200V - 240V	380V - 480V	525V - 600V	A	B	C	
H1	1/3 (0.25) - 2 (1.5)	0.5 (0.37) - 2 (1.5)	—	7.7 (195)	3.0 (75)	6.6 (168)	4.6 (2.1)
H2	3 (2.2)	3 (2.2) - 5 (4.0)	—	8.9 (227)	3.5 (90)	7.5 (190)	7.5 (3.4)
H3	5 (3.7)	7.5 (5.5) - 10 (7.5)	—	10.0 (255)	3.9 (100)	8.1 (206)	9.9 (4.5)
H4	7.5 (5.5) - 10 (7.5)	15 (11) - 20 (15)	—	11.7 (296)	5.3 (135)	9.5 (241)	17.4 (7.9)
H5	15 (11)	25 (18.5) - 30 (22)	—	13.1 (334)	5.9 (150)	10.0 (255)	20.9 (9.5)
H6	20 (15) - 25 (18.5)	40 (30) - 60 (45)	30 (22) - 40 (30)	20.4 (518)	9.4 (239)	9.5 (242)	54.0 (24.5)
H7	30 (22) - 40 (30)	75 (55) - 100 (75)	60 (45) - 75 (55)	21.7 (550)	12.3 (313)	13.2 (335)	79.4 (36)
H8	50 (37) - 60 (45)	125 (90)	100 (75) - 125 (90)	26.0 (660)	14.8 (375)	13.2 (335)	112.4 (51)
H9	—	—	3 (2.2) - 10 (7.5)	10.6 (269)	5.1 (130)	8.1 (205)	14.6 (6.6)
H10	—	—	15 (11) - 20 (15)	15.7 (399)	6.5 (165)	9.8 (248)	26.5 (12)

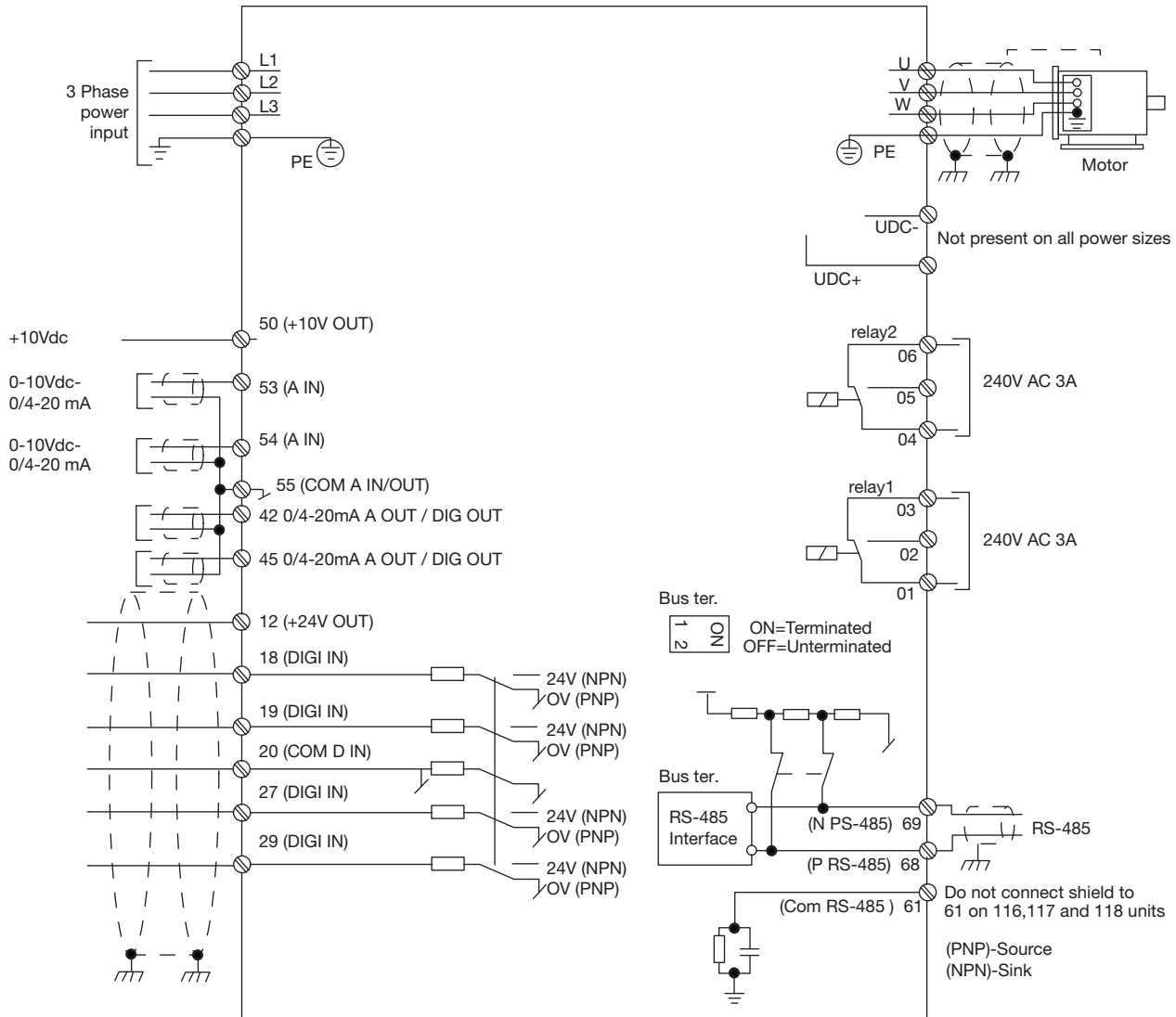
BACKPLATE MOUNTING HOLE DIMENSIONS

Frame Size	Inches (mm)			
	a	b	c	d
H1	7.2 (183)	0.35 (9)	0.18 (4.5)	0.21 (5.3)
H2	8.3 (212)	0.43 (11)	0.22 (5.5)	0.29 (7.4)
H3	9.4 (240)	0.43 (11)	0.22 (5.5)	0.32 (8.1)
H4	10.8 (275)	0.50 (12.6)	0.28 (7)	0.33 (8.4)
H5	12.4 (314)	0.50 (12.6)	0.28 (7)	0.33 (8.5)
H6	19.5 (495)	—	0.33 (8.5)	0.59 (15)
H7	20.5 (521)	—	0.33 (8.5)	0.67 (17)
H8	24.8 (631)	—	0.33 (8.5)	0.67 (17)
H9	10.1 (257)	0.43 (11)	0.22 (5.5)	0.35 (9)
H10	15.0 (380)	0.47 (12)	0.27 (6.8)	0.30 (7.5)

SPECIFICATIONS:

DRIVE INPUT POWER (L1, L2, L3)		
Supply voltage		200–240, or 380–480, or 525–600 VAC $\pm 10\%$
Supply frequency		50/60 Hz
Displacement Power Factor ($\cos \varphi$) near unity		> 0.98
Switching on input supply L1, L2, L3		1 time / minute maximum
OUTPUT DATA (U, V, W)		
Output voltage		0-100% of supply voltage
Switching on output		Unlimited
Ramp times		1-3600 seconds
Open/Closed loop		0-400 Hz
DIGITAL INPUTS		
Programmable digital inputs		4
Logic		PNP or NPN
Voltage level		0-24 VDC
ANALOG INPUTS		
Analog inputs		2
Modes		Voltage or current
Voltage level		0 V to +10 V (scaleable)
Current level		0/4 to 20 mA (scaleable)
ANALOG OUTPUT (<i>can be used as digital output</i>)		
Programmable analog outputs		2
Current range at analog output		0/4 to 20 mA
RELAY OUTPUTS		
Programmable relay outputs		2 (240 VAC, 2 A and 400 VAC, 2 A)
FIELDBUS COMMUNICATIONS		
Standard built-in		BACnet™, Modbus RTU, N2 Metasys, FLN Apogee, FC Protocol

ELECTRICAL SCHEMATIC



NOTE:

Please note there is no access to UDC- and UDC+ on the following units:

- IP20 380-480 V 30-90 kW
- IP20 200-240 V 15-45 kW
- IP20 525-600 V 2.2-90 kW
- IP54 380-480 V 22-90 kW



TACO, INC., 1160 Cranston Street, Cranston, RI 02920 Telephone: (401) 942-8000 FAX: (401) 942-2360.
TACO (Canada), Ltd., 8450 Lawson Road, Unit #3, Milton, Ontario L9T 0J8. Telephone: 905/564-9422. FAX: 905/564-9436.

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Printed in USA
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