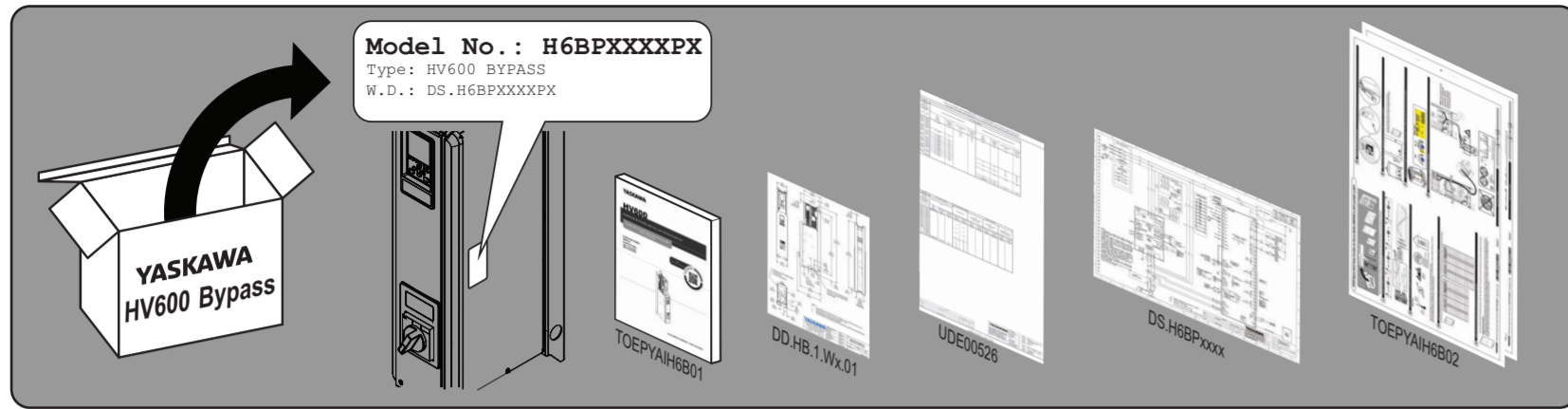
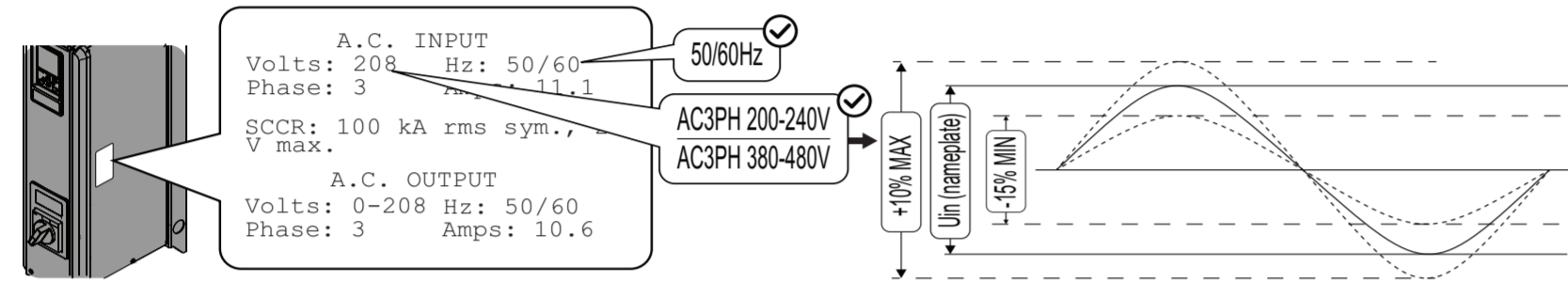
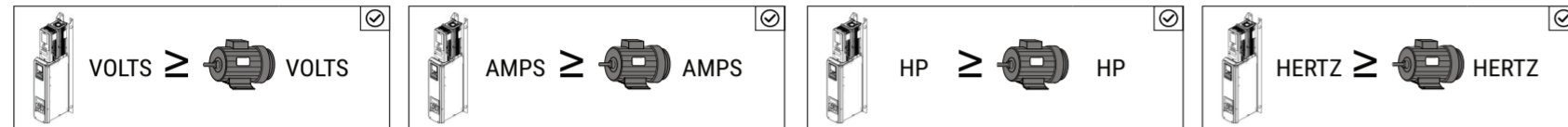


HV600 Bypass Quick Setup Procedure for Narrow Models H6BPD002 to D074 and B1P1, B001 to B077

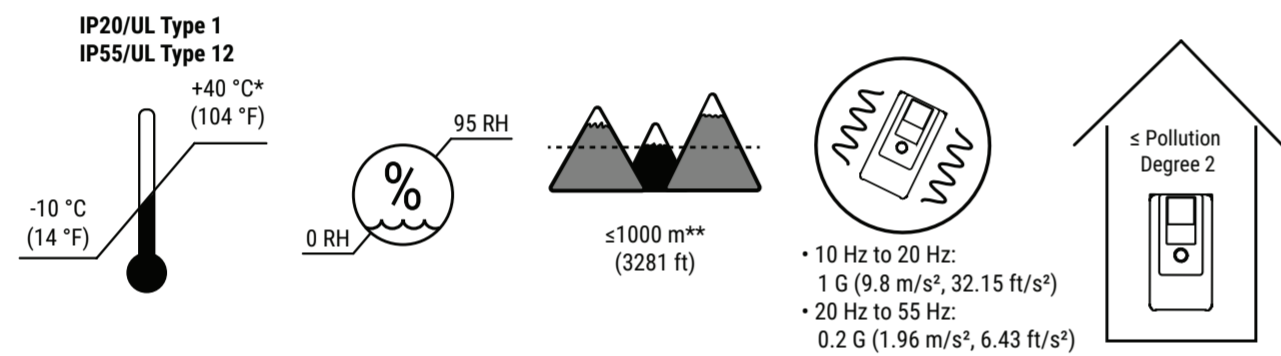


Read and follow the safety and installation procedures in the Installation & Startup (TOEPYAIH6B01) manual packaged with the bypass.

1 Confirm the Bypass and Motor Specifications



2 Confirm the Correct Installation Environment



*You can use the bypass at a maximum of 60 °C (140 °F) when you derate the output current.
 **Derate the output current by 1% for each 100 m (328 ft) to install the drive in altitudes between 1000 m to 4000 m (3281 ft to 13123 ft). Refer to the Technical Reference (SIEPYAIH6B01) for derating information.

3 Select the Correct Mounting Location and Position and Mount the Bypass Vertically

Use your Dimension Drawing to help you select the correct mounting location. The Dimension Drawing for your model is packaged with the bypass.

Bypass Model	Dimension Drawing DD.HB.1.xx.xx	Bypass Model	Dimension Drawing DD.HB.1.xx.xx
D002 - D016	W1.01	B1P1, B001 - B014	W1.01
D024, D030	W2.01	B021, B027	W2.01
D046, D059	W3.01	B034 - B052	W3.01
D074	W4.01	B065, B077	W4.01

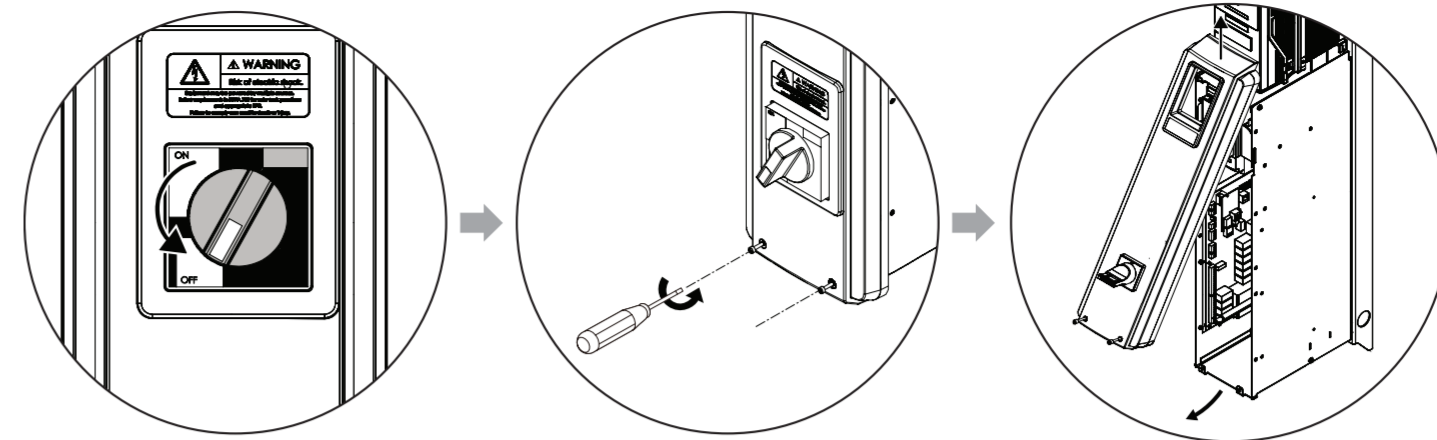
4 Select the Input and Output Wires and Branch Circuit Protection

Use your Customer Connection Drawing to help you select the correct wires. The Customer Connection Drawing for your model is packaged with the bypass.

Branch Circuit Protection

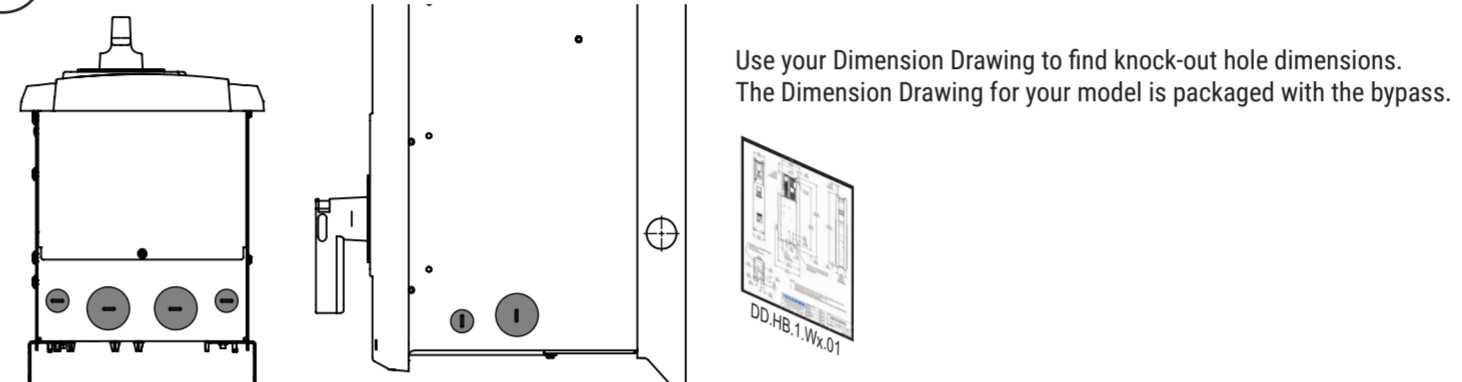
WARNING! Fire Hazard. The standard bypass includes a non-fusible disconnect switch that does not provide branch circuit protection. Branch Circuit protection is required to be installed according to applicable local codes and the requirements listed on the bypass nameplate. The bypass is suitable for use on a circuit capable of delivering not more than 100,000 RMS symmetrical amperes, 208/240 Vac and 480 Vac with the circuit breaker option or when protected by class J or class L fuses as specified on the bypass nameplate. Failure to obey can cause fire and damage to the bypass and drive or injury to personnel.

5 Remove the Bypass Front Cover



*Front cover removal is different for different enclosure types. The example shown here is for an IP20/UL Type 1 enclosure.

6 Select and Remove the Applicable Knock-out Holes for Your Installation

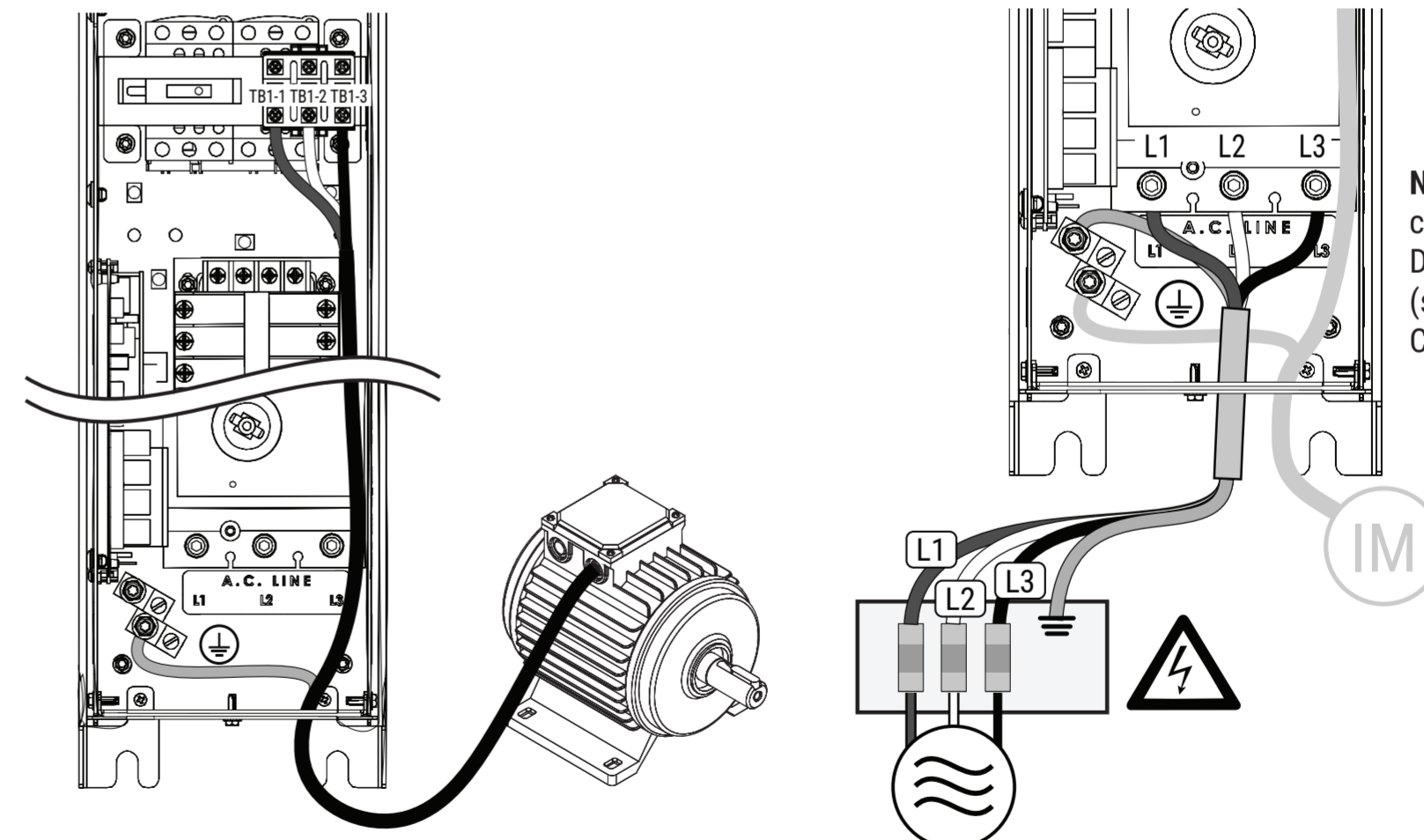


Use your Dimension Drawing to find knock-out hole dimensions. The Dimension Drawing for your model is packaged with the bypass.

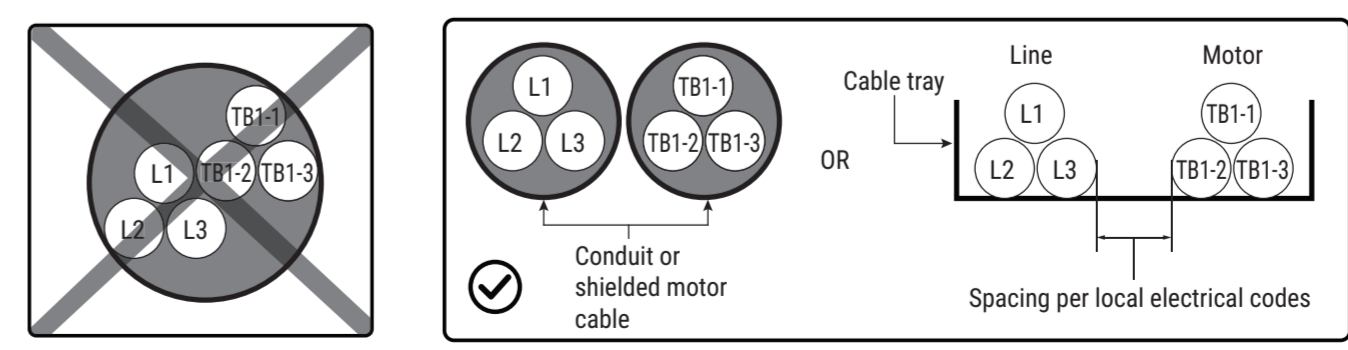
7 Optional Circuit Breaker CB1 - Set "FLA" to Match Motor FLA; Make Sure that "Im x FLA" is set to "AUTO"

Motor Type/	Auto	NEMA	IEC	Type/Typo
1	A, B, C, D	N	Standard	
2	B, E	H	Energy Efficient Energie Efficace Energia Efficente	

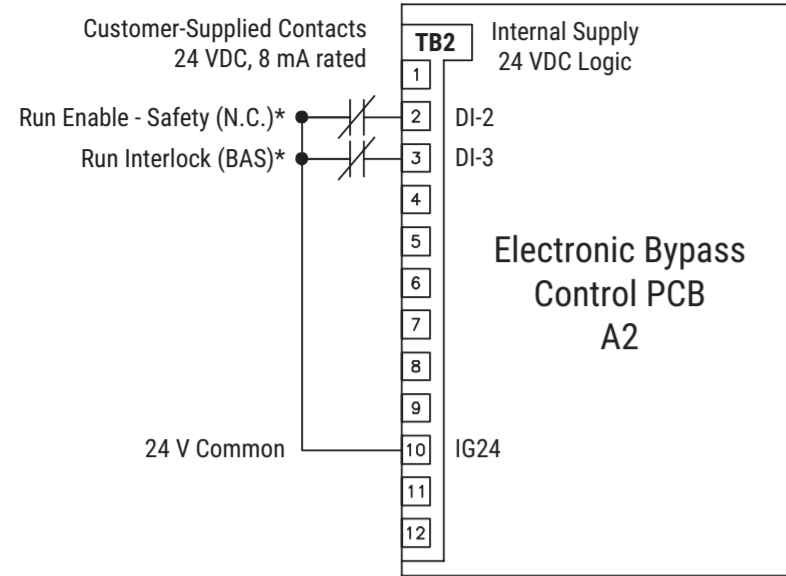
8 Install the Motor Wiring and Power Wiring



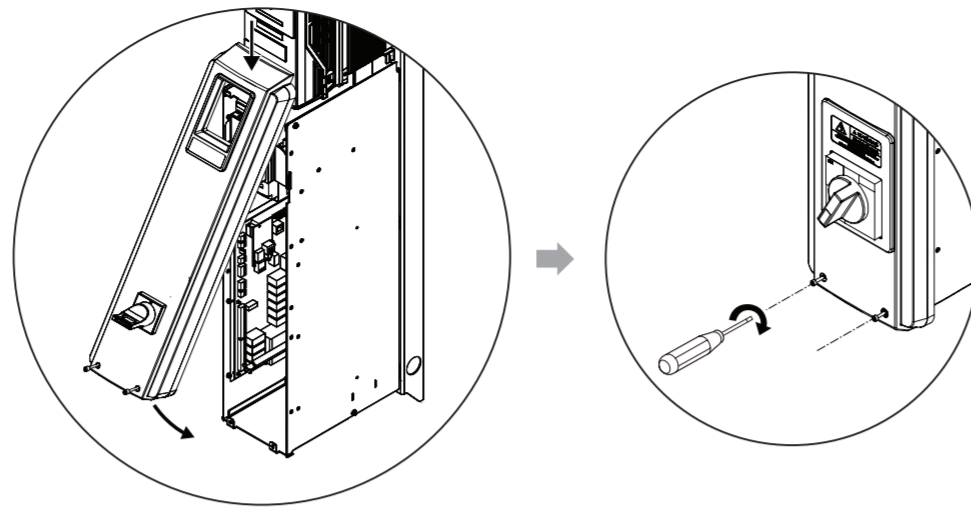
Note: Input power wiring connects to Standard Disconnect Switch (shown) or Optional Circuit Breaker CB1.



9 Make the Necessary Connections on the Bypass Control PCB **10 Reinstall the Bypass Front Cover**

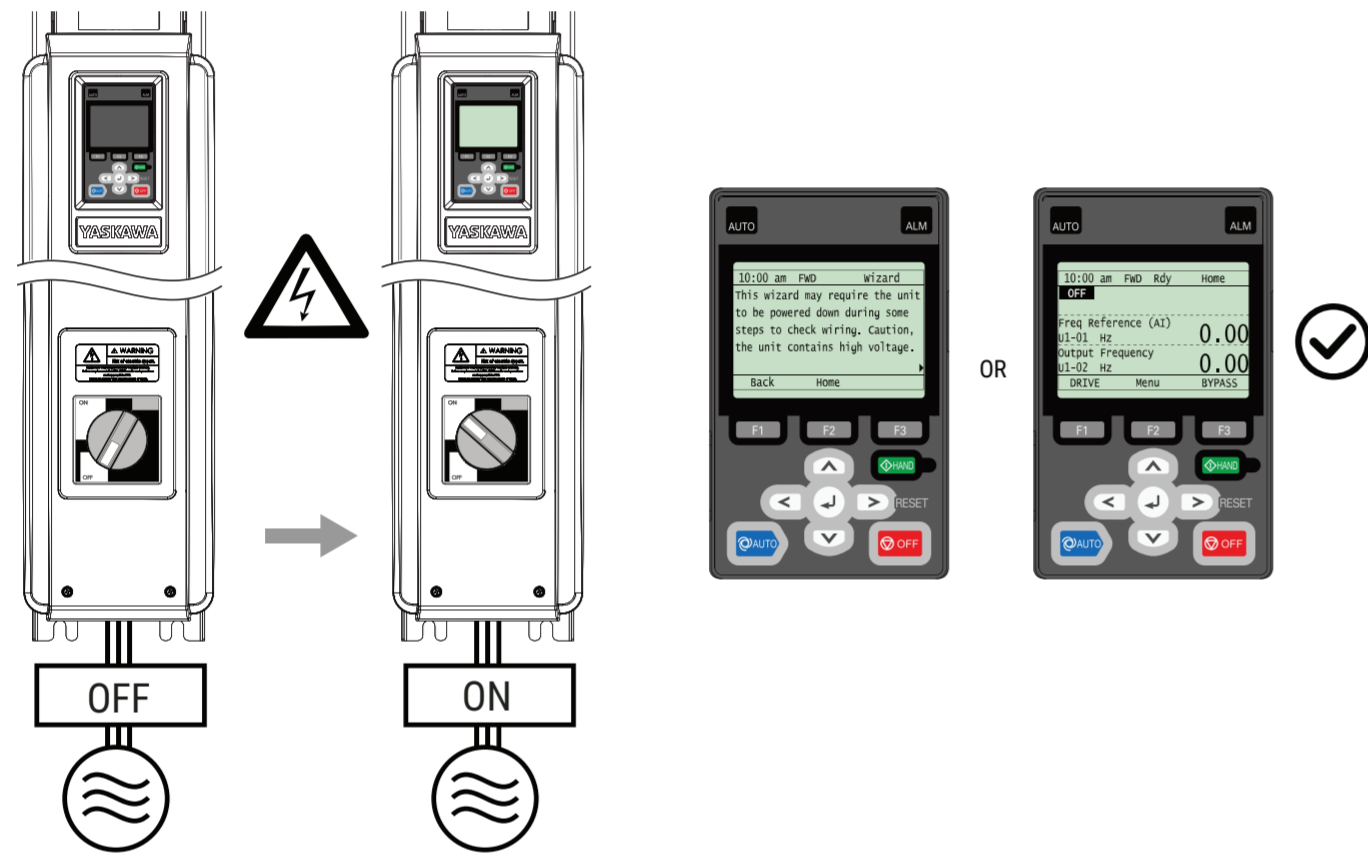


*You must make these connections to prevent "Safety Open" and "AL02 - Interlock Open" alarms.
If a safety circuit is not available, connect a jumper between DI-2 and IG24.
If an interlock circuit is not available, connect a jumper between DI-3 and IG24.

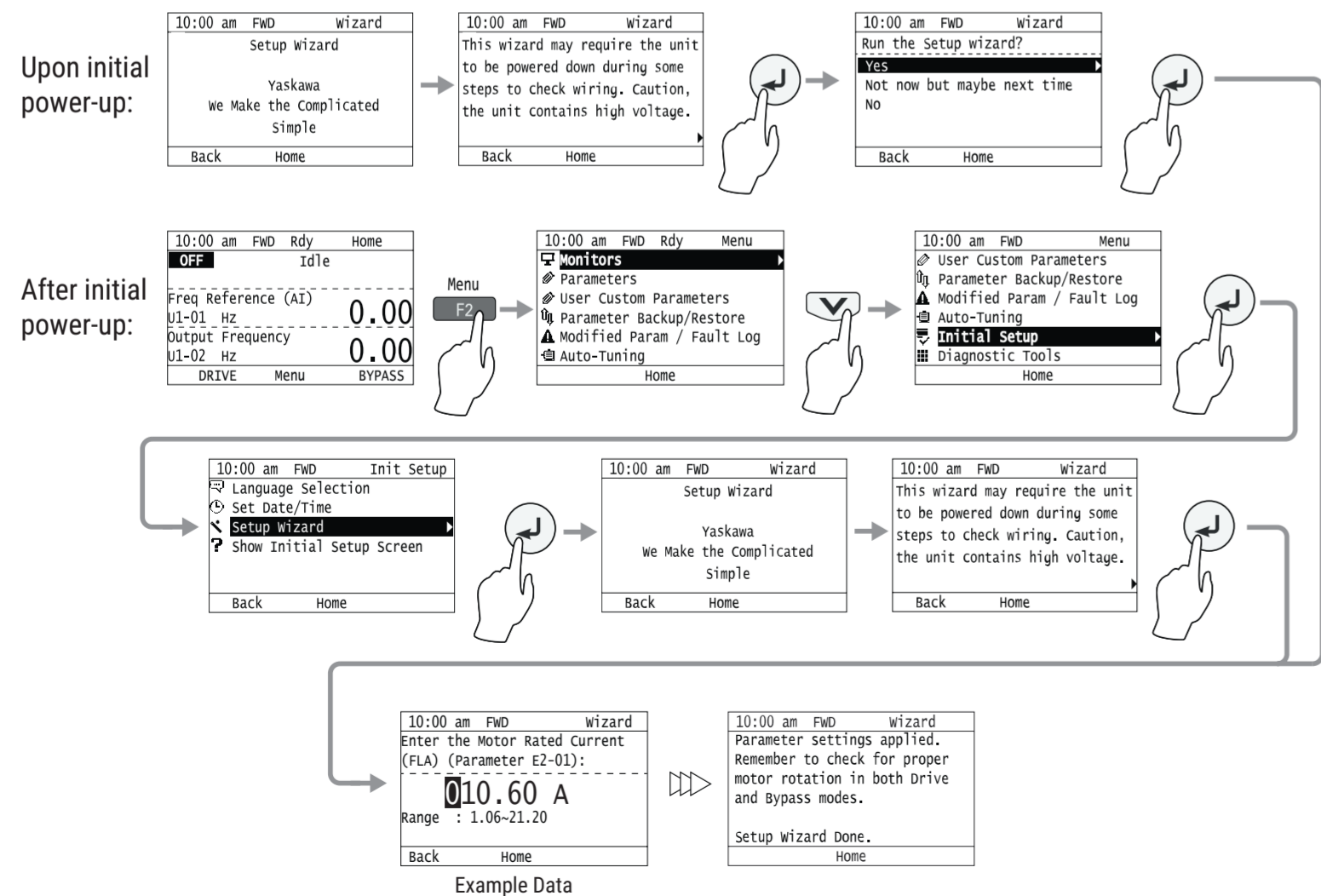


*Front cover reinstallation is different for different enclosure types. The example shown here is for an IP20/UL Type 1 enclosure.

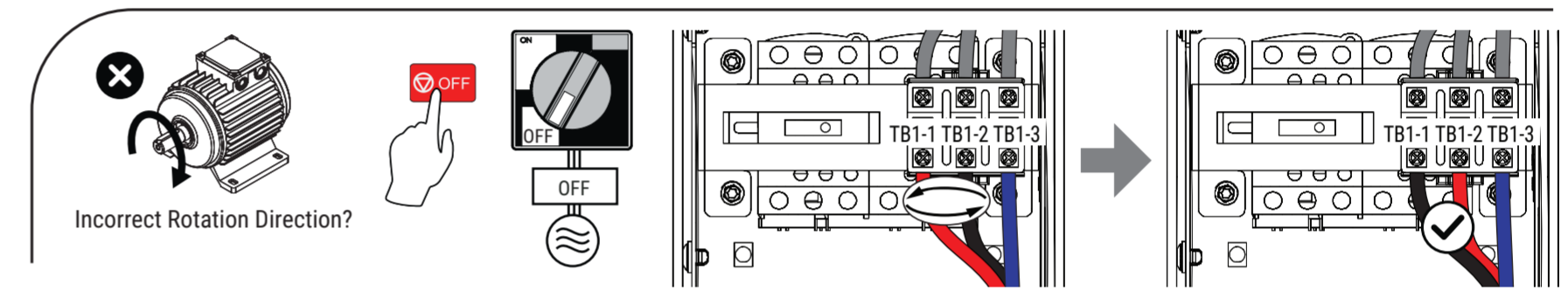
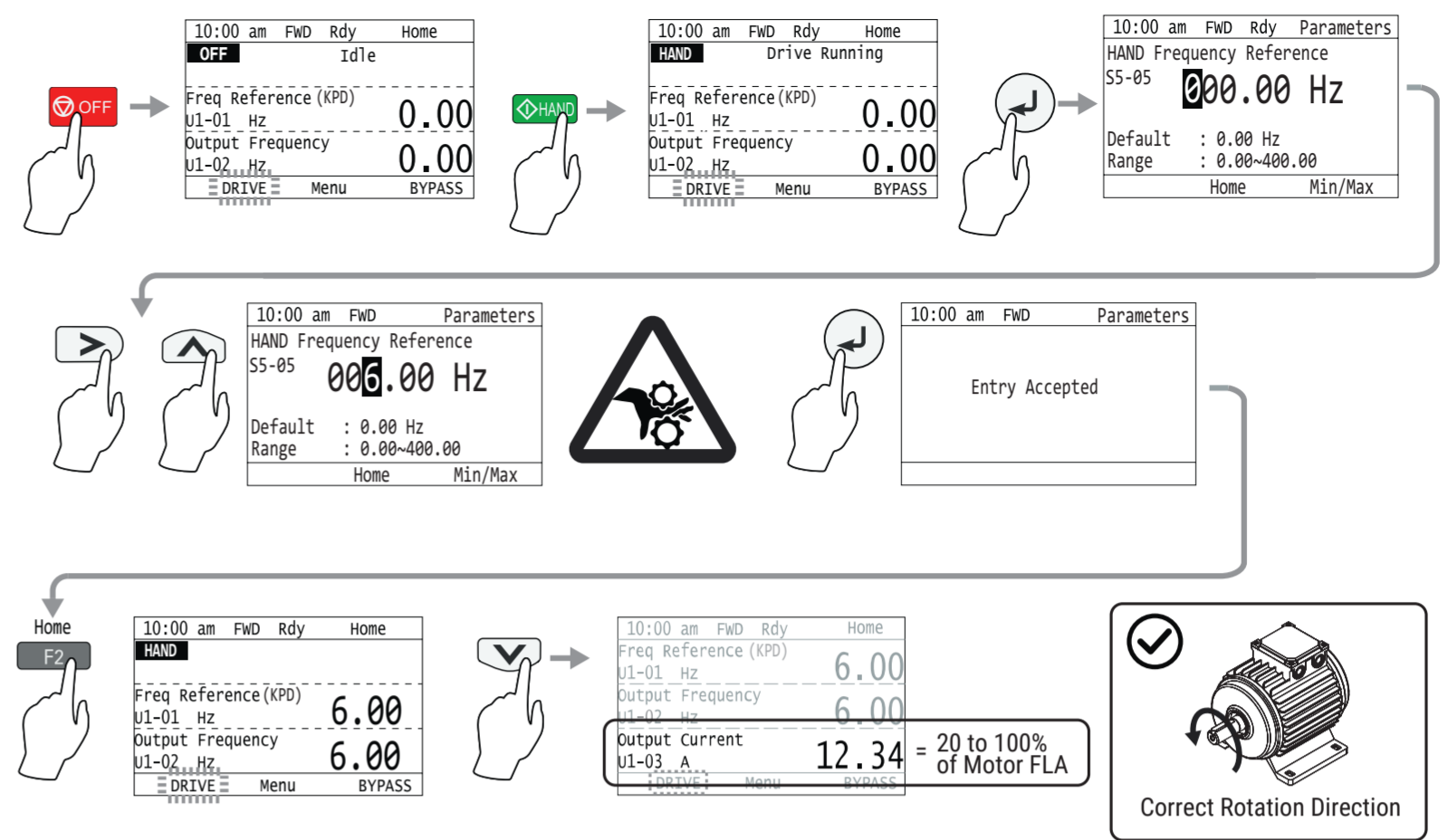
11 Energize the Bypass and Confirm It Is Ready



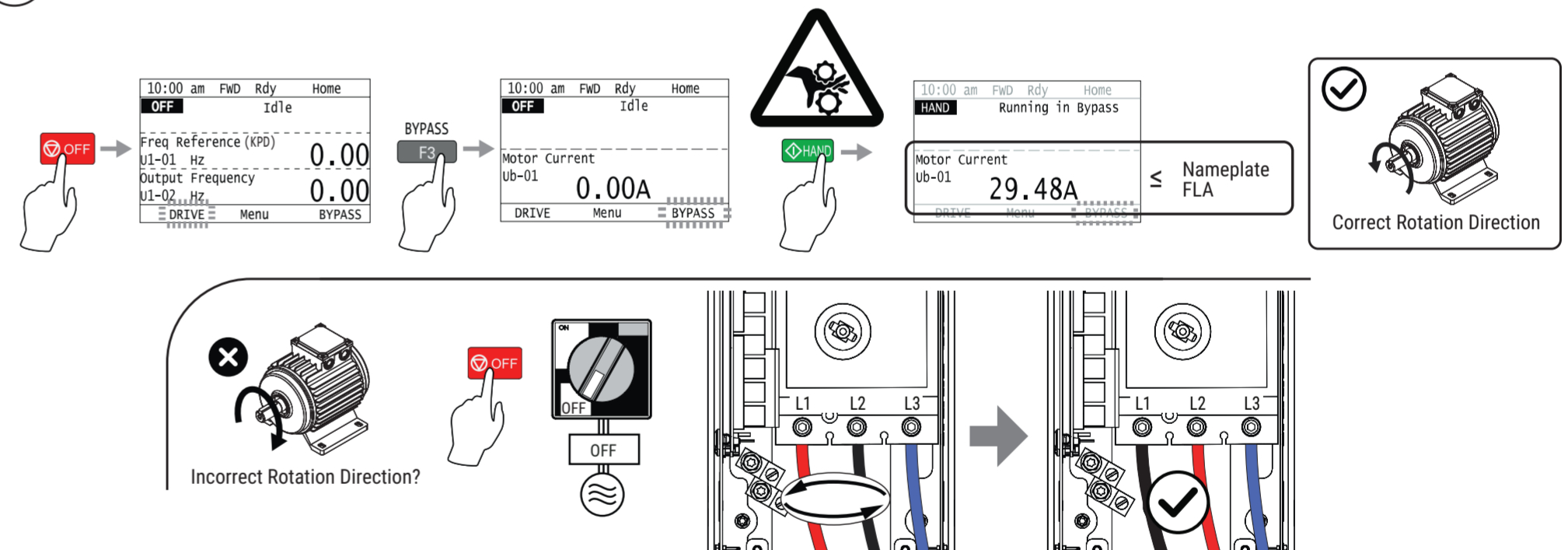
12 Run the Setup Wizard



13 Do a Test Run and Check the Motor Rotation in Drive Mode



14 Do a Test Run and Check the Motor Rotation in Bypass Mode



A How to Set Up the Bypass for Monitoring via BACnet MS/TP

10:00 am FWD Rdy Menu
Parameters
Monitors
Parameters
User Custom Parameters
Parameter Backup/Restore
Modified Param / Fault Log
Auto-Tuning

10:00 am FWD Parameters
C Tuning
d References
E Motor Parameters
F Options
H Terminal Functions
L Protection Functions

10:00 am FWD Parameters
H1 Digital Inputs
H2 Digital Outputs
H3 Analog Inputs
H4 Analog Outputs
H5 Serial Communication

10:00 am FWD Parameters
Drive Node Address
H5-01
Default : 1F
Range : 0-FF

10:00 am FWD Parameters
Communication Speed Selection
H5-02
9600 bps
Default : 3

Set to unique node (MAC) address for your network (Hex)

10:00 am FWD Parameters
Communication Protocol Selection
H5-08
BACnet
Default : 0

10:00 am FWD Parameters
BACnet Device Obj ID LOW BITS
H5-14
Default : 0001
Range : 0000-FFFF

10:00 am FWD Parameters
BACnet Device Obj ID HIGH BITS
H5-15
Default : 00
Range : 00-3F

10:00 am FWD Parameters
Communication Parameters Reload
H5-20
Reload Now
Default : 0

Set to 3: BACnet

Set the Device Object ID numbers together to make a unique value for your installation (Hex)

Set to 1: Reload Now

Input/Output - 3
Input/Output + 2
Signal ground (IG) 1

OFF ON

B Set Frequency Reference Source

From HOA Keypad

10:00 am FWD Parameters
Frequency Reference Selection 1
b1-01
Keypad
Default : 1

From External Terminals

10:00 am FWD Parameters
Frequency Reference Selection 1
b1-01
Analog Input
Default : 1

Potentiometer 2 kΩ
Set DIP Switch S2 to "V"

0 ~ 10 VDC
Set DIP Switch S2 to "V"

4 ~ 10 mA
Set DIP Switch S2 to "I"
Set Z2-30 = 2

C Set Start/Stop Control Method from External Terminals

10:00 am FWD Parameters
Run Command Selection 1
b1-02
AUTO Command + Term Run
Default : 7

12
11
10
9
8
7
6
5
4
3 Run Interlock (BAS) (NC)
2 Run Enable - Safety (NC)
1 Run (AUTO)

D Bypass Control Circuit

2. GROUND
1. GROUND

Comms TB3
4. SHIELD
3. TXRX-
2. TXRX+
1. IG5

Analog Input TB4
3. COMMON
2. AI-1
1. +10 Vdc

Digital Inputs TB2
12. SHIELD
11. SHIELD
10. IG24
9. IG24
8. DI-8
7. DI-7
6. DI-6
5. DI-5
4. DI-4
3. DI-3
2. DI-2
1. DI-1

Digital Outputs TB1
12. DO-10 NO
11. DO-10 C
10. DO-10 NC
9. DO-9 NO
8. DO-9 C
7. DO-9 NC
6. DO-8 NO
5. DO-8 C
4. DO-8 NC
3. DO-7 NO
2. DO-7 C
1. DO-7 NC

Terminal Block Pinout:

Terminal Block	Type	Terminal	Parameter	Default	Name	Function (Signal Level)		
TB2	Digital Inputs	TB2-1	DI-1	Z2-01	21	Run (Auto)	Dry contact rated, photocoupler sinking input to IG24, 24 VDC 8 mA, ground fault protected	
		TB2-2	DI-2	Z2-02	22	Run Enable - Safety (NC)		
		TB2-3	DI-3	Z2-03	23	Run Interlock BAS (NC)		
		TB2-4	DI-4	Z2-04	24	Remote Transfer to Bypass		
		TB2-5	DI-5	Z2-05	25	Emergency Override to Bypass		
		TB2-6	DI-6	Z2-06	0	Spare		
		TB2-7	DI-7	Z2-07	0	Spare		
		TB2-8	DI-8	Z2-08	0	Spare		
		TB2-9/10	IG24	-	-	Isolated Ground		Digital input common
		TB4	Analog Inputs	TB4-1	+10 VDC	Z2-30		0
TB4-2	AI			-	-	Analog Input Speed Reference		
TB4-3	COMMON			-	-	Analog Input Common	Analog input common	
TB1	Digital Outputs	TB1-1/2/3	DO-7	Z2-23	7	Motor Run	Relay, dry contact form C, 30 VDC or 120 Vac, 2 Amp	
		TB1-4/5/6	DO-8	Z2-24	10	HAND Mode		
		TB1-7/8/9	DO-9	Z2-25	12	AUTO Mode		
		TB1-10/11/12	DO-10	Z2-26	15	System Fault		
TB6	Ground Terminals	TB6-1/2	GROUND	-	-	Chassis Ground	-	
TB3	Serial Comms	TB3-1	IG5	H5-xx	-	Isolated Ground	Ground reference for RS-485 signals	
		TB3-2	TXRX+	H5-xx	-	(+) Differential Communication Signal		RS-485 BACnet communications: Maximum 76.8 kbps
		TB3-3	TXRX-	H5-xx	-	(-) Differential Communication Signal		
		TB3-4	SHIELD	H5-xx	-	Shield Tie Point		Capacitively coupled to chassis ground.

E Switches on the Bypass Control Board

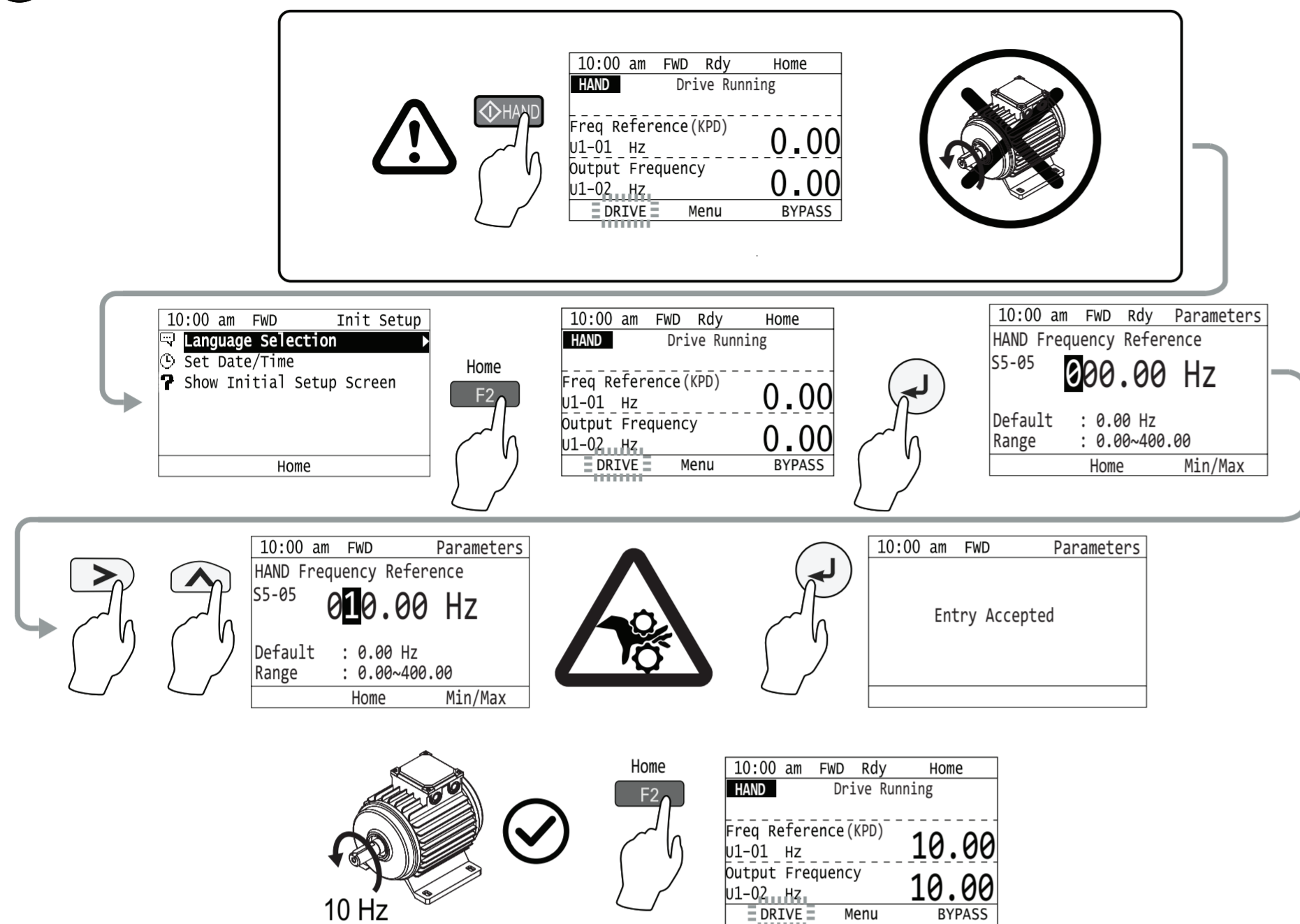
DIP Switch S1
Serial Communications
120 Ω Terminating resistor

ON
OFF

DIP Switch S2
Analog Input Source

V
I

F If You Push the HAND Button but the Motor Does Not Spin (Drive Mode)



G Parameter Groups

A: Initialization	d: Reference Settings	L: Protection Functions	S: Special Applications
A1 Initialization	d1 Frequency Reference	L1 Motor Protection	S1 Dynamic Noise Control
A2 User Parameters	d2 Reference Limits	L2 Power Loss Ride Through	S2 Sequence Run Timers
b: Application	d3 Jump Frequency	L3 Stall Prevention	S3 PI2 Control
b1 Operation Mode Selection	d4 Freq. Ref. Up/Down & Hold	L4 Speed Detection	S5 HAND/OFF/AUTO Operation
b2 DC Injection Braking and Short Circuit Braking	d6 Field Weakening	L5 Fault Restart	S6 Protection
b3 Speed Search	d7 Offset Frequency	L6 Torque Detection	T: Auto-Tuning
b4 Timer Function	E: Motor	L8 Drive Protection	T0 Tuning Mode Selection
b5 PID Control	E1 V/f Pattern for Motor 1	L9 Drive Protection 2	T1 InductionMotor Auto-Tuning
b8 Energy Saving	E2 Motor 1 Parameters	n: Special Adjustment	Y: Application Features
C: Tuning	F: Options	n1 Hunting Prevention	Y1 Application Basics
C1 Accel & Decel Time	F6 Communication Option	n3 High Slip/Overexcite Braking	Y2 PID Sleep and Protection
C2 S-Curve Characteristics	F7 Ethernet Options	o: Keypad-Related Settings	Y4 Application Advanced
C3 Slip Compensation	H: Terminal Functions	o1 Keypad Display	YA Preset Setpoint
C4 Torque Compensation	H1 Digital Inputs	o2 Keypad Operation	YC Feedback Features
C6 Carrier Frequency	H2 Digital Outputs	o3 Copy Keypad Function	YF PI Auxiliary Control
	H3 Analog Inputs	o4 Maintenance Monitors	Z: Bypass Parameters
	H4 Analog Outputs	o5 Log Function	Z1 Bypass Control Ssystem
	H5 Serial Communication		Z2 Bypass Digital Inputs/Outputs
	H7 Virtual Inputs/Outputs		Z3 Bypass Serial Communications

Frequently Used Parameters

Parameter Number Name	Default Description	Parameter Number Name	Default Description	Parameter Number Name	Default Description
A1-03 Initialize Parameters	0 Operation Only	b3-24 Speed Search Method Selection	2 Current Detection 2	E1-04 Maximum Output Frequency	60.0 Hz
A1-06 Application Preset	0 No preset	C1-01 Acceleration Time 1	30.0 s	E2-01 Motor Rated Current (FLA)	-
b1-01 Frequency Reference Selection 1	1 Analog Input	C1-02 Deceleration Time 1	30.0 s	Z2-30 Analog Input Signal Level Select	0 0 to 10 V
b1-02 Run Command Selection 1	7 AUTO Command + Term Run	d2-01 Frequency Reference Upper Limit	100.0%	L5-01 No. of Auto-Restart Attempts	0
b1-03 Stopping Method Selection	1 Coast to Stop	d2-02 Frequency Reference Lower Limit	0.0%	L5-04 Interval Method Restart Time	10.0 s
b3-01 Speed Search at Start Selection	0 Disabled	E1-01 Input AC Supply Voltage	-		

H Troubleshooting Resources for Faults and Alarms

Resource	Choose This When:	URL	QR Code
Installation & Startup	You have access to the paper copy of the manual that was packaged with the drive. This manual lists all drive faults and alarms, and offers a selection of causes and solutions.	https://www.yaskawa.com/toepyaih601	
Technical Reference	You want to download a PDF of the manual to your smartphone or tablet. This manual lists the full complement of causes and solutions to all drive faults and alarms and also includes detailed information about drive maintenance, wiring, and programming.	https://www.yaskawa.com/siepyaih601	

I Additional Resources

Product Manuals



- PDFs
- Online HTML5-Searchable
- Manuals App

<https://www.yaskawa.com/hv600manuals>

J Customer Feedback

Comments or questions about this document? Fill out our online form:



www.yaskawa.com/DRV-F-0006

OR

Email us: technical_documentation@yaskawa.com
Call us: 1-800-YASKAWA (927-5292)

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