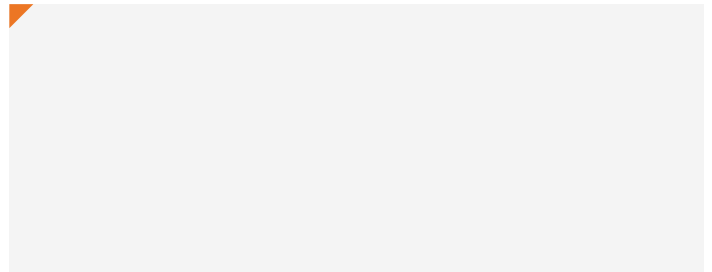


Q-LINK SMART BYPASS

1-56A, 200-480VAC, 3Ø
UL Type 1 Enclosure



Special Instructions:



The Q-Link Smart Bypass is an integrated solution for critical applications without compromising for communications and motor protection. Unlike traditional bypasses, the Q-Link Smart Bypass seamlessly maintains BACnet or Modbus communications, as well as advanced motor protection when in bypass mode.

FEATURES

- Smartstart® protection feature set
- Single user interface
- Pass-through I/O
- Industry leading compact design
- Auto or manual bypass modes
- Finger-safe power terminals
- Native BACnet/Modbus in bypass mode

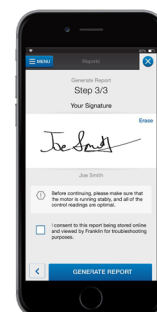
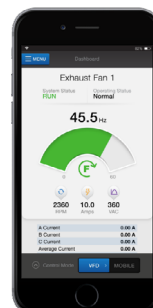
TECHNOLOGIES

R³FILTERING **SMARTSTART**



Q-LINK COMPANION APP

- Guided Start-UP
- In-App Troubleshooting Solutions
- Pre-Call Fault and Troubleshooting Reports
- Over-the-air Firmware Updates
- Monitoring via Bluetooth® Connection
- Start-up Report Generation
- iOS & Android Compatible
- Save and Store Device Settings
- Create Configuration Templates



SIZING INFORMATION TABLE

Q-Link Variable Frequency Drive - 3-Phase

200 VAC			208 VAC			230 VAC			380–480 VAC			Part Number
HP	FLA	KAIC	HP	FLA	KAIC	HP	FLA	KAIC	HP	FLA	KAIC	
–	–	100	–	–	100	–	–	100	0.75	1.6	65	QLNK1-BYP003-DV-1.6
0.5	2.5	100	0.5	2.4	100	0.5	2.2	100	1	2.1	65	QLNK1-BYP003-DV-2.5
0.75	3.7	100	0.75	3.5	100	0.75	3.2	100	2	3.4	65	QLNK1-BYP005-DV-4
1	4.8	100	1	4.6	100	1.5	6	100	3	4.8	65	QLNK1-BYP009-DV-6
2	7.8	100	2	7.5	100	2	6.8	100	5	7.6	65	QLNK1-BYP009-DV-8
2	7.8	100	2	7.5	100	3	9.6	100	5	7.6	65	QLNK1-BYP012-DV-10
3	11	100	3	10.6	100	3	9.6	100	7.5	11	65	QLNK1-BYP017-DV-13
3	11	100	3	10.6	100	5	15.2	100	10	15	65	QLNK1-BYP017-DV-17
5	17.5	100	5	16.7	100	7.5	22	100	15	21	65	QLNK1-BYP024-DV-22
7.5	25.3	100	7.5	24.2	100	7.5	22	100	15	21	65	QLNK1-BYP028-DV-26
7.5	25.3	100	7.5	24.2	100	10	28	100	20	27	65	QLNK1-BYP028-DV-32
10	32.2	100	10	30.8	100	10	28	100	25	34	50	QLNK1-BYP038-DV-40
10	32.2	100	10	30.8	100	10	28	100	30	40	50	QLNK1-BYP045-DV-40
15	48.3	100	15	46.2	100	15	42	100	30	40	50	QLNK1-BYP056-DV-50
-	-	-	-	-	-	20	54	100	40	52	50	QLNK1-BYP056-DV-63

SUBMITTED EQUIPMENT SCHEDULE

QTY	Part #	HP	Voltage	Phase	Tag
		✓	✓	✓	✓
		✓	✓	✓	✓
		✓	✓	✓	✓
		✓	✓	✓	✓
		✓	✓	✓	✓
		✓	✓	✓	✓
		✓	✓	✓	✓
		✓	✓	✓	✓
		✓	✓	✓	✓
		✓	✓	✓	✓

Q-Link Specification Table

Input ratings	Voltage (V)	Three phase, 200–480V (-10%, +15%)
	Frequency (Hz)	50~60Hz (±5%)
	Efficiency	≥98%, Full Load and Full Voltage
	Input Power Factor	>.99
Output ratings	Current	1-56A (200–460V)
	Voltage (V)	0-100% of Supply Voltage
	Frequency (Hz)	0~240Hz
Control	Control method	V/F Scalar Pulse Width Modulation
	Carrier Frequency	2kHz - 10kHz, 0.1kHz resolution, Default 2.5kHz
	Output Frequency Resolution	0.01Hz
	Frequency Setting Accuracy	Digital: 0.01 % of Max. Output Frequency Analog: 1 % of Max. Output Frequency
	V/F ratio	Linear, Square Pattern
	Overload Capacity	110% for 60s
Operation	Operation Method	OLED display, HOA keypad, Terminals, Bluetooth® mobile app, Communications
	Programming Method	OLED display, Programming Keypad, Bluetooth® mobile app, Communications
	PID	Standard
	Communications Interface	Physical (RS-485, Bluetooth®) Protocols (Native BACnet MS/TP Modbus RTU)*
	Logging	100 Faults/100 Alarms/100 Parameter Changes - w/ Real Time & Date
	Indication	3 LEDs: Hand, Off, Auto
	Operation Functions	Frequency Limit / Skip Frequencies / Reverse Rotation Prevention / Auto Restart / Flying Start / Damper Control / Motor Pre-Heat / Torque Boost / Stall Prevention / DC Trip Prevention / DC Braking / DC Start / Analog Signal Loss / Auto Bypass (Bypass models only) / Fireman's Override / Auto Fault Restart
Dry Inputs	Count	4 configurable (NO or NC)
	Programmable Inputs	None / Enable / Fireman's Override / Speed- A / Speed- B / Setpoint-A / Setpoint-B / Damper LSW / Flow Switch / External Trip / Run Forward / Run Reverse / 2nd Acc/Dec Time / 3-Wire Start / 3-Wire Stop / HOA Auto / HOA Hand Shutdown / Fault Reset / Bypass / Switch 1A to 2A/3A
	Logic	PNP or NPN
	Voltage Level	24 VDC, 5mA Max
Wet (Voltage) Inputs	Count	2 configurable
	Programmable Inputs	None / Enable / Fireman's Override / Speed- A / Speed- B / Setpoint-A / Setpoint-B / Damper LSW / Flow Switch / External Trip / Run Forward / Run Reverse / 2nd Acc/Dec Time / 3-Wire Start / 3-Wire Stop / HOA Auto / HOA Hand / Shutdown / Fault Reset / Bypass / Switch 1A to 2A/3A
	Voltage Level	12-240 ± 10%V, 5mA Max
Analog I/O	Count	3 Selectable: 1A = AI, 0-10V/0-24V/4-20mA 2A = AIO / 0-10V input or 0-10V/4-20mA output 3A = AI 4-20mA
	Mode	Voltage or Current
	Level	0-10VDC or 4-20mA
Analog Output	Control Power	24VDC, 50mA Max
Damper Output	Count	1 damper actuator output
	Control Power Rating	24VDC, 0.5Amp Max
Relay Outputs	Count	2 Relay Outputs
	Programmable	Status, Run, Fault, SW Configurable
	Control Power Rating	125VAC, 1.25Amp Max, switching voltage 250VAC
Protection	Functions	OV/UV (Line or DC Bus) / Inverter Over Current / Inverter Overheat / Input Phase Loss / Output Phase Open / Ground Fault / Locked Rotor / Stall / Under Power / Over Power / Inverter Short Circuit Protection / Temperature Sensor Fault / Communication Loss / Loss of Analog Signal / Hardware Fault / Broken Belt / Max time to start / Bypass contactor
	Short Circuit Rating	100 kAIC fused protected
Environmental	Ambient Temperature	-10 to 40°C (104°F), 50°C (122°F) achievable following derate rules
	Storage Temperature	-20 to 65°C
	Location	Pollution Degree 2 Environment
	Altitude	1000m (3280ft) above sea level. De-rate 10% for installations up to 2000m (6560ft). Additional 20% for installations 2000-3000m (6560–9840ft). *OR reduce max ambient temp rating by 1°C per 200m (6560ft) altitude above 1000m (3280ft).
	Relative Humidity	95% Relative Humidity (non-condensing)
Certifications	Agency Approvals	UL, cUL
	Safety	UL 61800-5-1 (Harmonized Safety Standard)
	Enclosure Rating	UL Type 1 (Consult factory for UL Type 12/IP54, UL Type 3R/IP54, UL Type 4X/IP66 options)
	Keypad Rating	UL Type 1 (IP21)
	Harmonic Distortion	≤ 35% via R ³ Filtering to help meet IEEE519 and EN50160
	EMC	EN 61800-3 (Radiated and Conducted Emissions)

COMPONENT SPECIFICATIONS

The following section details the various components' sizing and ratings. To locate your component part numbers for the Q-Link reference the sizing information table below.

THREE POLE CONTACTORS

Specification Table



Part Number	Disconnect Part Number	Part Number	Disconnect Part Number
QLNK1-BYP003-DV-16	MRC-9B-24VAC	QLNK1-BYP024-DV-22	MRC-22B-24VAC
QLNK1-BYP003-DV-25		QLNK1-BYP028-DV-26	MRC-32-24VAC
QLNK1-BYP005-DV-4		QLNK1-BYP028-DV-32	
QLNK1-BYP009-DV-6	MRC-12B-24VAC	QLNK1-BYP038-DV-40	MRC-50LA-24VAC
QLNK1-BYP009-DV-8		QLNK1-BYP045-DV-40	
QLNK1-BYP012-DV-10	MRC-18B-24VAC	QLNK1-BYP056-DV-50	
QLNK1-BYP017-DV-13	MRC-22B-24VAC	QLNK1-BYP056-DV-63	
QLNK1-BYP017-DV-17			

3-POLE CONTACTOR SPECIFICATIONS

Type				MRC-9A	MRC-12B	MRC-18B	MRC-22B	MRC-32A	MRC-50LA
Frame Size				22AF				40AF	65AF
Terminal Type				Screw				Screw	Screw
Number of poles				3 pole				3 pole	4 pole
Rated operation voltage, Ue				690V				690V	690V
Rated insulation voltage, Ui				690V				690V	690V
Rated frequency				50/60Hz				50/60Hz	50/60Hz
Rated impulse withstand voltage, Uimp				6kV				6kV	6kV
Max. operating rate in operating cycles per hour (AC3)				1800 operations per hour				1800 operations per hour	1800 operations per hour
Durability	Mechanical			15 mil. operations				15 mil. operations	152 mil. operations
	Electrical			2.5 mil. operations				1 mil. operations	2 mil. operations
Current and power	AC-1, Thermal current	A	A	25	25	40	40	50	70
			kW	2.5	3.5	4.5	5.5	18	15
		A	200/240V	11	13	18	22	50	55
			kW	4	5.5	7.5	11	35	22
		A	380/440V	9	12	18	22	50	50
			kW	4	7.5	7.5	15	43	30
		A	500/550V	7	12	13	20	50	43
			kW	4	7.5	7.5	15	55	30
UL rating (50/60Hz)	Continuous current	A	A	25	25	32	32	45	70
			HP	0.5	0.75	1	2	2	3
		HP	220~240V	1.5	2	3	3	5	10
			200~208V	2	3	5	7.5	7.5	20
		HP	220~240V	3	5	7.5	7.5	10	25
			440~4 80V	5	7.5	10	10	20	40
		HP	550~600V	7.5	10	15	15	25	50
			NEMA size	00	—	0	—	1	2
Size and weight	MRC	Weight Size (WxHxD)	lbs in	0.73 lbs 1.77 x 2.89 x 3.39 in				1.27 lbs 2.32 x 3.29 x 3.72 in	2.31 lbs 2.64 x 4.17 x 4.69 in
			lbs in	1.12 lbs 1.77 x 2.89 x 4.63 in				2.27 lbs 2.32 x 3.29 x 4.76 in	2.27 lbs 2.64 x 4.17 x 5.76 in
Auxiliary (standard)				1NO & 1NC				1NO & 1NC	1NO & 1NC
Auxiliary	Side mount			MA-1				MA-1	MA-1
	Front mount			CA-2, CA-4				CA-2, CA-4	CA-2, CA-4



*Minimum conduct current of auxiliary contactor is DC 17V 5mA
 **10A max, Not motor duty rated.

COMPONENT SPECIFICATIONS

The following section details the various components' sizing and ratings. To locate your component part numbers for the Q-Link reference the sizing information table below.

(MCP) DISCONNECT

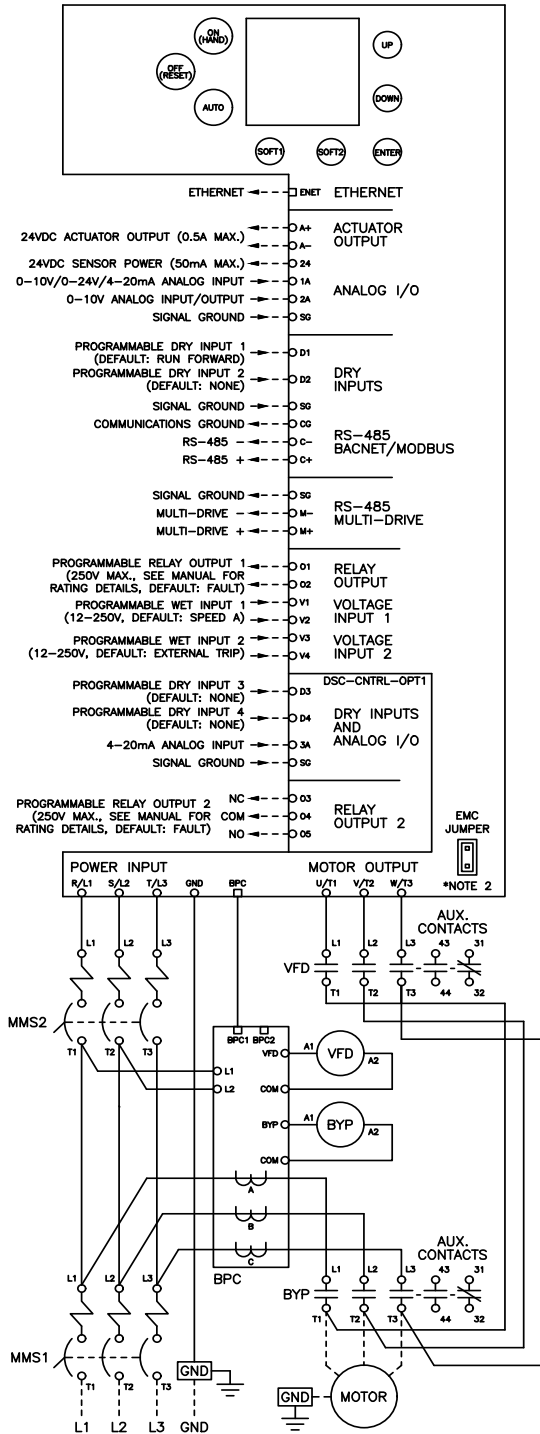


Specification Table

Part Number	Disconnect Part Number
QLNK1-BYP003-DV-1.6	CMS-32HI-1.6
QLNK1-BYP003-DV-2.5	CMS-32HI-2.5
QLNK1-BYP005-DV-4	CMS-32HI-4
QLNK1-BYP009-DV-6	CMS-32HI-6
QLNK1-BYP009-DV-8	CMS-32HI-8
QLNK1-BYP012-DV-10	CMS-32HI-10
QLNK1-BYP017-DV-13	CMS-32HI-13
QLNK1-BYP017-DV-17	CMS-32HI-17
QLNK1-BYP024-DV-22	CMS-32HI-22
QLNK1-BYP028-DV-26	CMS-32HI-26
QLNK1-BYP028-DV-32	CMS-32HI-32
QLNK1-BYP038-DV-40	CMS-63HI-40
QLNK1-BYP045-DV-40	CMS-63HI-40
QLNK1-BYP056-DV-50	CMS-63HI-50
QLNK1-BYP056-DV-63	CMS-63HI-63

Frame Size	Part #	Rated operational current Ie (A)	Magnetic release operating current (A)	KAIC Ratings [kA]		
				240V	480V	600V
32AF	CMS-32HI-1.6	1.6	20.8	100	65	25
	CMS-32HI-2.5	2.5	32.5	100	65	25
	CMS-32HI-4	4	52	100	65	25
	CMS-32HI-6	6	78	100	65	25
	CMS-32HI-8	8	104	100	65	25
	CMS-32HI-10	10	130	100	65	25
	CMS-32HI-13	13	169	100	65	25
	CMS-32HI-17	17	221	100	50	10
	CMS-32HI-22	22	286	100	30	10
	CMS-32HI-26	26	338	100	30	10
	CMS-32HI-32	32	416	100	30	10
63AF	CMS-63HI-40	40	520	100	50	10
	CMS-63HI-50	50	650	100	50	10
	CMS-63HI-63	63	819	100	50	10

Q-LINK WIRING DIAGRAMS (1–28HP)

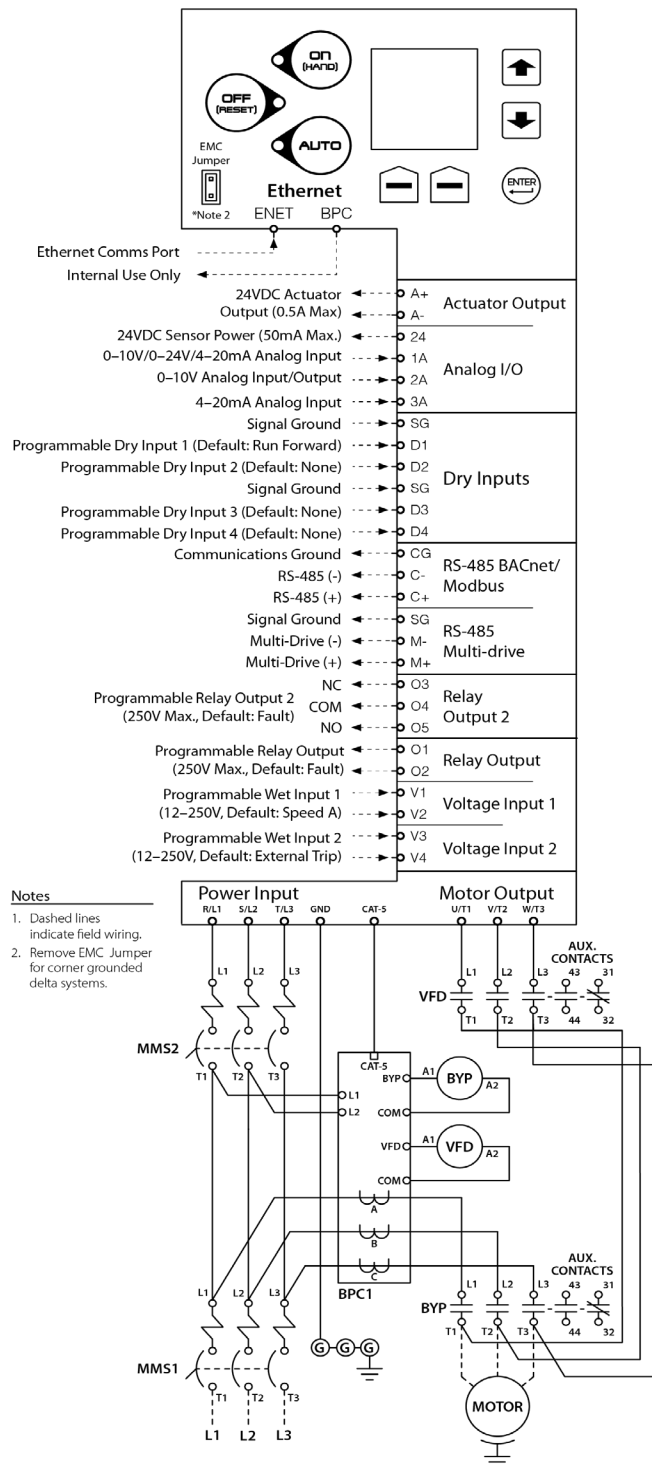


- NOTES
1. DASHED LINES INDICATE FIELD WIRING.
 2. REMOVE EMC JUMPER FOR CORNER GROUNDED DELTA SYSTEMS.

*For general reference only, not field wiring.
Consult installation instructions.



Q-LINK WIRING DIAGRAMS (38–56HP)



**For general reference only, not field wiring.
Consult installation instructions.*

Q-LINK VFD DIMENSIONS

**All measurements in inches*

UL TYPE 1 ENCLOSURE

Q-LINK VFD	H x W x D
QLNK1-BYP003-DV-1.6	31.75" x 5.5" x 6.75" (806mm x 140mm x 171mm)
QLNK1-BYP003-DV-2.5	
QLNK1-BYP005-DV-4	
QLNK1-BYP009-DV-6	
QLNK1-BYP009-DV-8	
QLNK1-BYP012-DV-10	
QLNK1-BYP017-DV-13	
QLNK1-BYP017-DV-17	
QLNK1-BYP024-DV-22	
QLNK1-BYP028-DV-26	
QLNK1-BYP028-DV-32	49.5" x 6.5" x 7.3" (1257mm x 165mm x 186mm)
QLNK1-BYP038-DV-40	
QLNK1-BYP045-DV-40	
QLNK1-BYP056-DV-50	
QLNK1-BYP056-DV-63	

