

MicroFlex e190 Wall chart

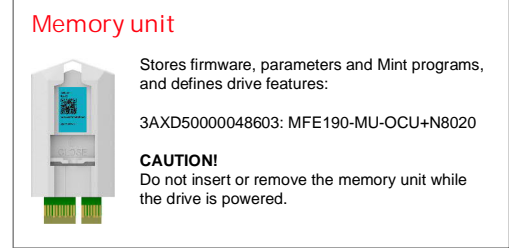
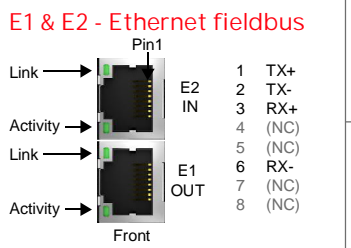
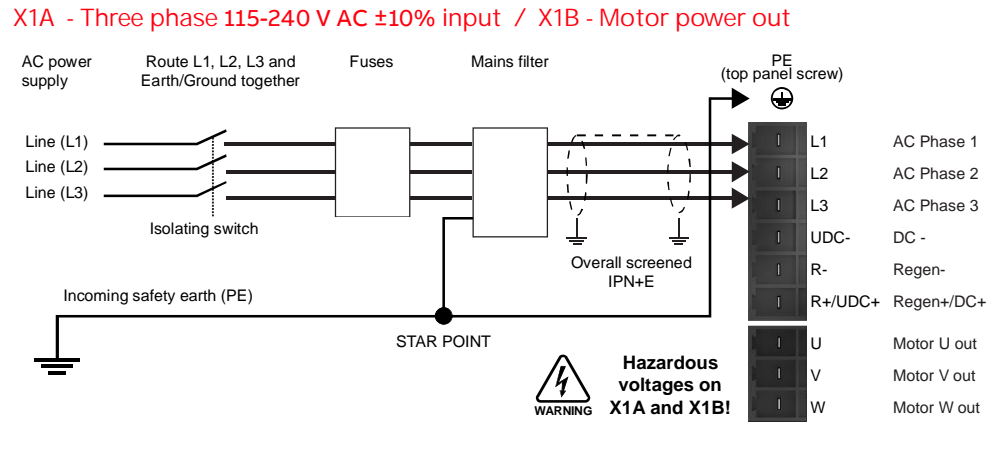
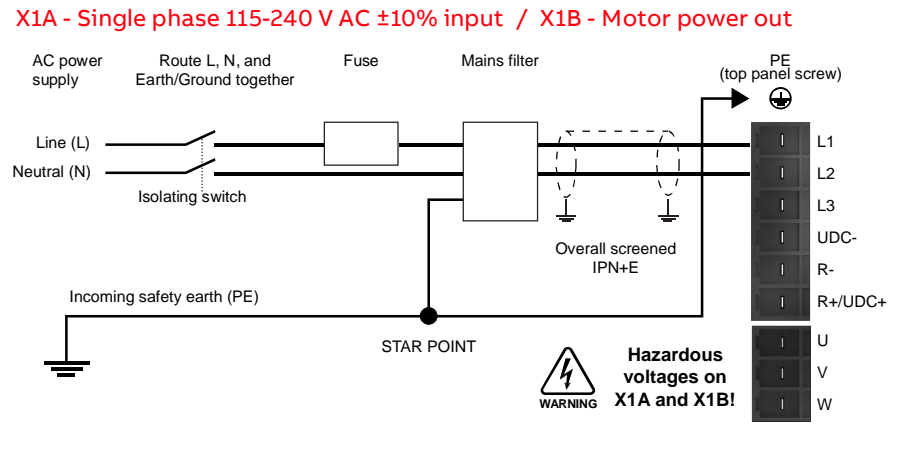
ABB motion control products

Part numbers

MFE190 - 04UN - 03A0 - 2

MFE190	E190 = MicroFlex e190
04	04 = Construction / frame size
UN	UN = Universal encoder, slave / CN, not programmable*
03A0	Rated amps: 01A6 = 1.6 A, 03A0 = 3 A, 06A0 = 6 A, 09A0 = 9 A
2	Input voltage rating: 2 = 105-230 VAC

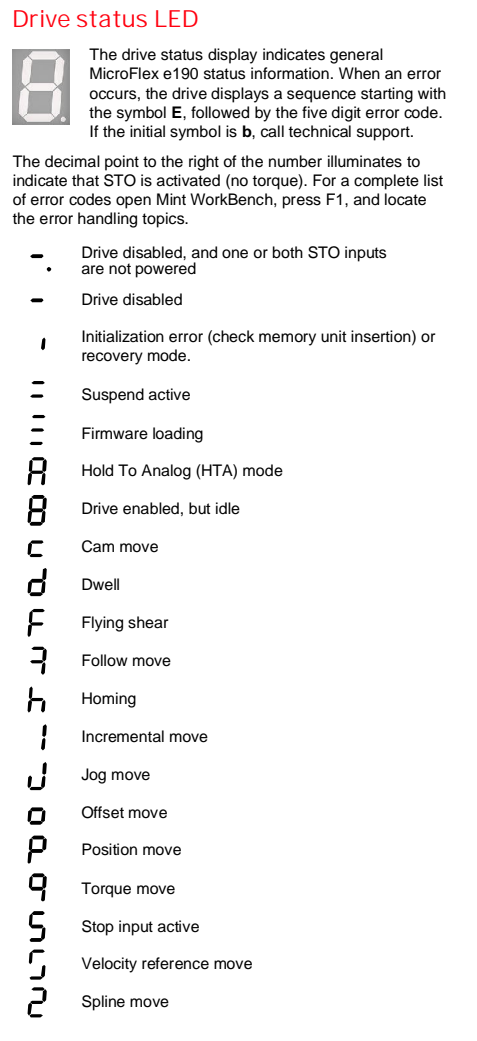
* Motion programming is enabled by fitting memory unit MFE190-MU-OCU+N8020 (order code: 3AXD5000048603).



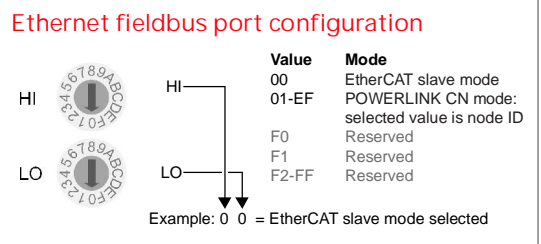
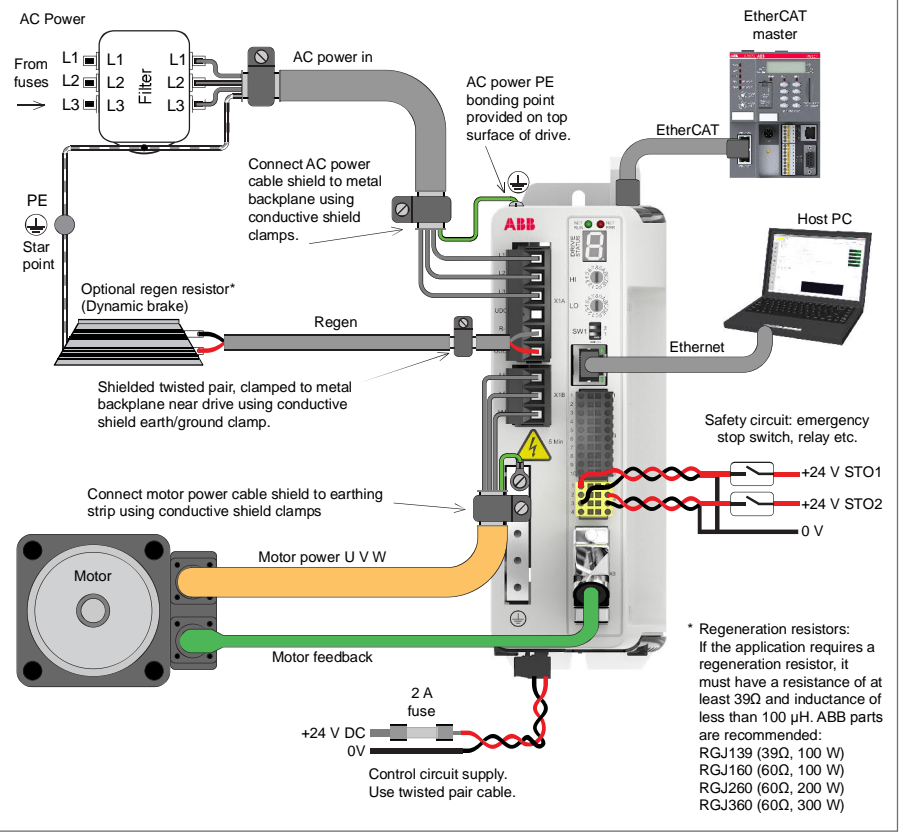
Recommended power filters

Drive continuous current rating	1Ø AC power ABB catalog number	3Ø AC power ABB catalog number
1.6 A	OFI-01 / OFI-02	OFI-03
3 A	OFI-01 / OFI-02	OFI-03
6 A	OFI-01	JFI-02
9 A	OFI-01	JFI-02

IMPORTANT!
Compliant with EN61000-6-3 (Class B).
Foot-mount filter OFI-01 is designed for use with any single-phase MicroFlex e190.



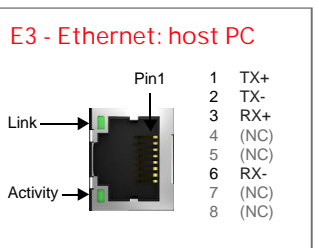
Recommended system wiring



Mating connectors

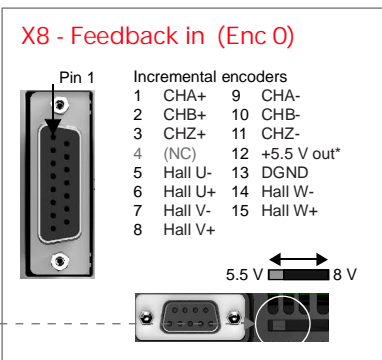
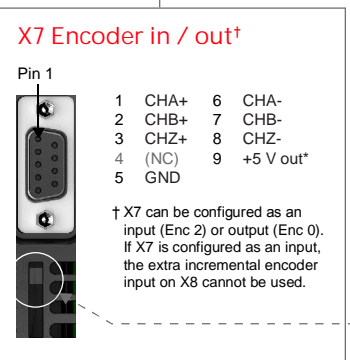
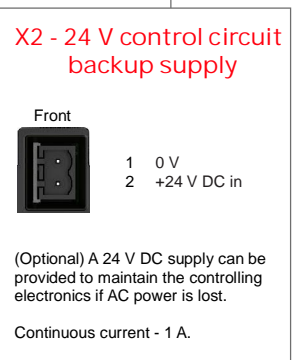
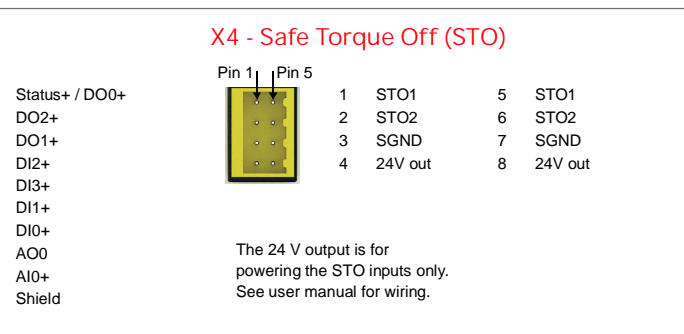
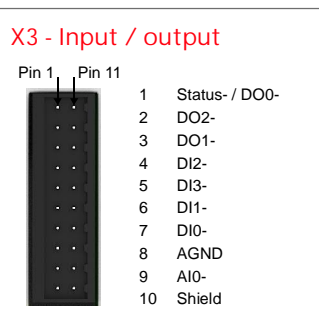
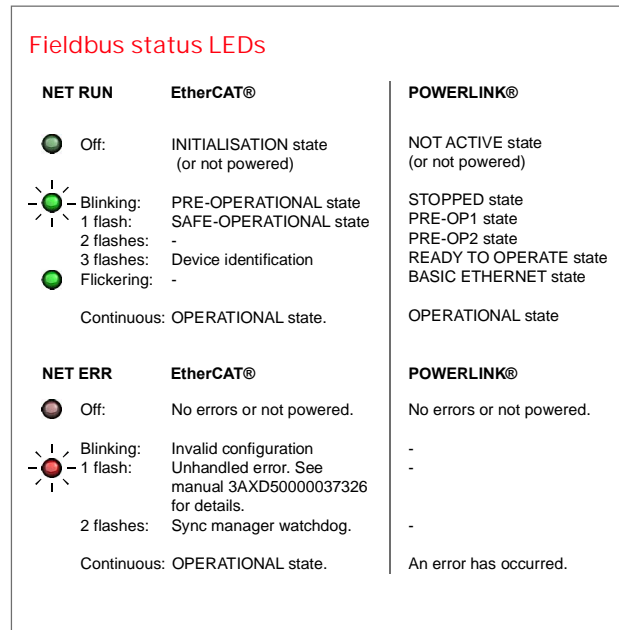
	mm² / AWG	N·m / lbf·in
X1A Dinkle EC762V-B3253206P-BK	0.2-6.0 / 30*-10	0.7 / 6.2
X1B Dinkle EC762V-B3253203P-BK	0.2-6.0 / 30*-10	0.7 / 6.2
X2 Phoenix MVSTBR 2.5HC/ 2-ST-5,08	0.2-2.5 / 24-12	0.6 / 5.3
X3 Weidmüller B2L 3.50/20/180	0.2-1.0 / 28-16	- / -
X3 Weidmüller B2L 3.50/8/180	0.2-1.0 / 28-16	- / -

* Minimum size for UL installations is 14 AWG.



SW1 - DIP switches

Switch	Purpose	OFF	ON
2	Firmware recovery mode	Normal operation	Recovery mode
1	Fix IP address for host port	Normal IP configuration	Fixed IP address 192.168.0.1



* Max. combined current from X8 pin 12 and X7 pin 9 is 500 mA

Pin	Signal	Pin	Signal
1	Data+	9	Data-
2	Clock+	10	Clock-
3	(NC)	11	(NC)
4	(NC)	12	+5.5 V out*
5	(NC)	13	DGND
6	(NC)	14	(NC)
7	(NC)	15	(NC)
8	(NC)		

(Enc 2)†

Pin	Signal	Pin	Signal
1	(NC)	9	(NC)
2	(NC)	10	(NC)
3	(NC)	11	(NC)
4	(NC)	12	+5.5 V out*
5	CHA+	13	DGND
6	CHA+	14	CHZ-
7	CHB-	15	CHZ+
8	CHB+		

* X8 pin 12 provides a 5.5 V or 8-12 V supply for feedback devices that require power. The maximum combined current from all encoder supplies (X8 pin 12 and X7 pin 9) is 500 mA. **WARNING!** The 8-12 V supply is provided for devices on X8 that require this voltage. Move the switch towards the rear of the drive to select 8-12 V output. Selecting the wrong voltage could damage your feedback device.

An extra incremental encoder can be connected simultaneously with BiSS, SSI, EnDat 2.2, or Smart Abs. Use OPT-MF-200 Encoder Breakout for easy connection of both inputs. Use OPT-MF-200 in conjunction with OPT-MF-201 Resolver Adapter to allow simultaneous connection of a resolver (Enc 0) and an incremental encoder (Enc 2). † See note for X7.

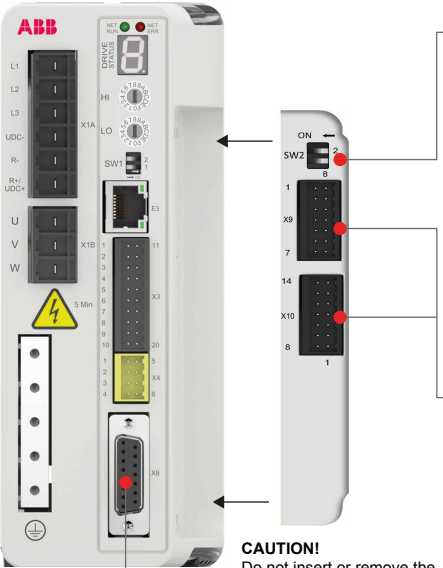
3AXD5000037323
REV B (EN)
1/2

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OPT-SIO-1 Option Card

Firmware build version that supports the option card:
MicroFlex e190 Build **5869.12.0 and later.**



CAUTION!
Do not insert or remove the option card while the drive is powered.

SW2 - DIP switches



Switch	Purpose	OFF	ON
2	RS422 RX terminator	No	120Ω
1	RS422 TX terminator or RS485 terminator	No	120Ω

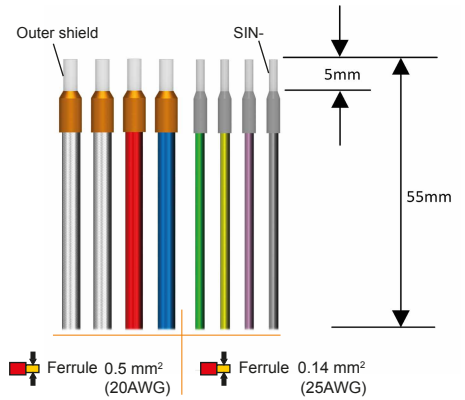
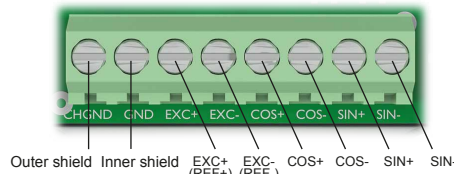
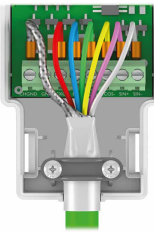
X9 - Communication and Analog Input

Pin	Signal	Pin	Signal
1	A+/ TX+	8	A+/ TX+
2	B-/ TX-	9	B-/ TX-
3	Shield	10	Shield
4	RX+	11	RX+
5	RX-	12	RX-
6	Shield	13	Shield
7	AIN1-	14	AIN1+

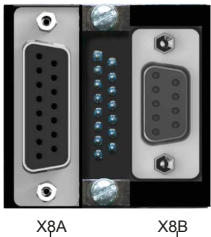
X10 - Digital Input and Output

Pin	Signal	Pin	Signal
14	Shield	7	DIN4
13	CREF1	6	DIN5
12	DIN8	5	DIN6
11	DIN9	4	DIN7
10	USRV+	3	CREF0
9	DOUT5	2	DOUT3
8	DOUT6	1	DOUT4

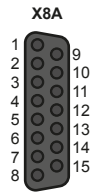
X8 - OPT-MF-201 Resolver adapter



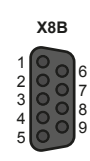
X8 - OPT-MF-200 Encoder breakout



X8A: Motor feedback
X8B: Incremental encoder



Pin	Incremental	BiSS/SSI/ EnDat 2.2	Smart Abs
1	CHA+	Data+	Data+
2	CHB+	Clock+	(NC)
3	CHZ+	(NC)	(NC)
4	(NC)	(NC)	(NC)
5	(NC)	(NC)	(NC)
6	(NC)	(NC)	(NC)
7	(NC)	(NC)	(NC)
8	(NC)	(NC)	(NC)
9	CHA-	Data-	Data-
10	CHB-	Clock-	(NC)
11	CHZ-	(NC)	(NC)
12	+5 V out	+5 V out	+5 V out
13	DGND	DGND	DGND
14	(NC)	(NC)	(NC)
15	(NC)	(NC)	(NC)
Shell	Shield	Shield	Shield



Pin	Incremental	Halls
1	CHA+	Hall U+
2	CHB+	Hall V+
3	CHZ+	Hall W+
4	(NC)	(NC)
5	DGND	DGND
6	CHA-	Hall U-
7	CHB-	Hall V-
8	CHZ-	Hall W-
9	+5 V out	+5 V out
Shell	Shield	Shield

X8A and X8B can be used together to connect a single motor that has separate cables for encoder and Halls (e.g. a linear motor). Use X8A for the encoder and X8B for the Halls.

Mating connectors



mm² / AWG

Connector	Manufacturer	Specifications
X9 X10	Weidmüller B2L	3.50/14/180
	ANYTEK	vw-3.50mm 14p

* Minimum size for UL installations is 14 AWG.

Order Code

OPT-SIO-1 Option card	3AXD50000297450
OPT-MF-200 Encoder breakout	3AXD50000032891
OPT-MF-201 Resolver adapter	3AXD50000032892

Recommended power filters	Recommended regen resistors
OFI-01 3AXD5000046328	RGJ139 3AXD50000032899
OFI-02 3AXD5000046327	RGJ160 3AXD50000032900
OFI-03 3AXD5000032910	RGJ260 3AXD50000032901
JFI-02 3ABD68711321	RGJ360 3AXD50000032902

3AXD50000037323
REV B (EN)
2/2

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CAUTION

Electrical components can be damaged by static electricity. Before touching the card, be sure to discharge static electricity from your body and clothing by touching a grounded metal surface. Alternatively, wear an earth strap while handling the card. Never work on the drive, motor cable or motor when input power is applied. To prevent equipment damage, be certain that input and output signals are powered and referenced correctly. Do not remove the screw locks while the device is powered. See manual MicroFlex e190 for details.