

ABB motion control products

Wall chart

MicroFlex e150

Part numbers

E 152 A09 EIOA x x x

E15 E15 = MicroFlex e150.

2 2 = 115 - 230 V AC supply input.

A09 A09 = Rated amps: 03 = 3 A, 06 = 6 A, 09 = 9 A.

E E = Feedback: E = Universal Encoder (connector X8).

I I = Extra digital inputs / outputs present (connector OPT1).

O O = Build option: O = Programmable, N = Not programmable

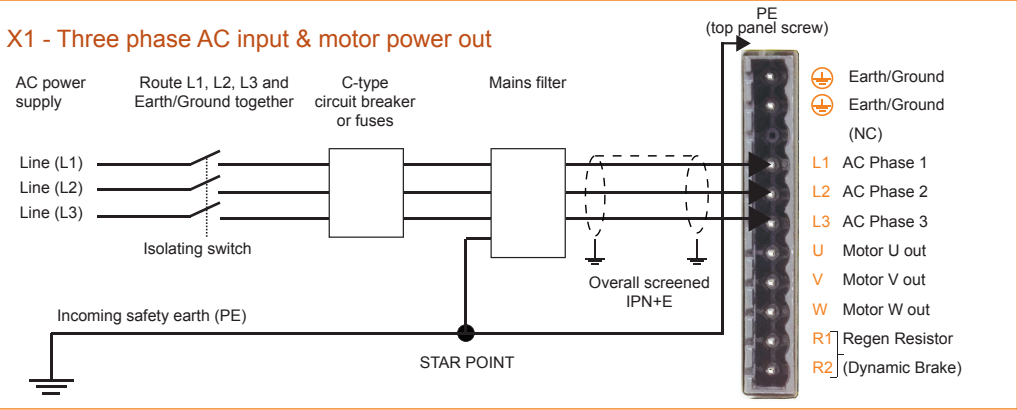
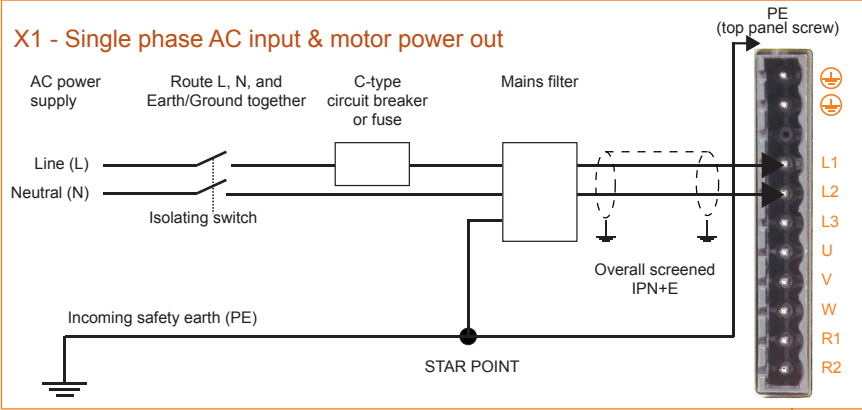
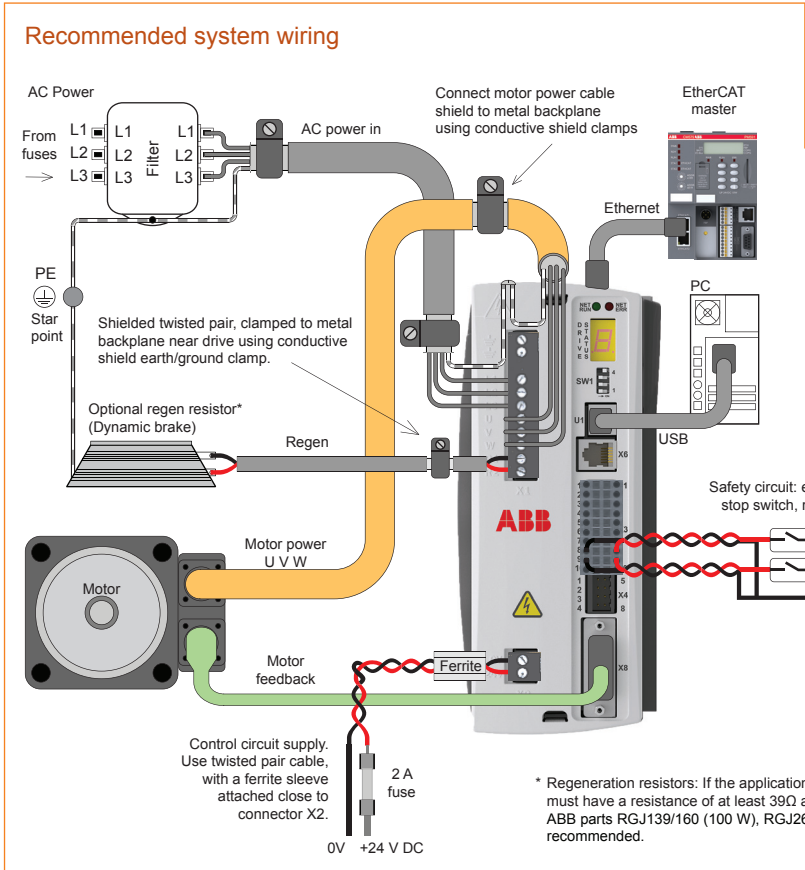
A A = Hardware revision.

xxx xxx = (Optional) Custom variant.

Cooling requirements

Control continuous current rating	Air flow velocity
3 A	No additional cooling required.
6 A	1.0 m/s (3.3 ft/s) or greater.
9 A	2.5 m/s (8.2 ft/s) or greater.

IMPORTANT! 6 A and 9 A models require additional cooling. Optional fan tray FAN001-024 provides sufficient cooling for all models.



Recommended power filters

Drive continuous current rating	1Ø AC power ABB catalog number	3Ø AC power ABB catalog number	24 VDC control supply ABB catalog number
3 A	FI0015A00†	FI0018A00	FI0014A00 (all models)
6 A	FI0015A02†	FI0018A00	
9 A	FI0029A00	FI0018A03	

IMPORTANT! Compliant with EN61000-6-3 (Class B).

†Alternatively, foot-mount filter FI0029A00 may be used. This filter is specially designed for use with any single-phase MicroFlex e150.

SW1 - DIP switches

Switch	Purpose	OFF	ON
4	E1 (OUT) interface mode	EtherCAT	Standard Ethernet
3	Operating mode	Normal	Firmware recovery
2	X6 2-wire TX/RX (or 4-wire TX) terminator	No terminator	120 Ω terminator
1	X6 4-wire RX terminator	No terminator	120 Ω terminator

X2 - 24 V control circuit input

X8 - Feedback in

Incremental encoders	EnDat 2.1	SinCos
1 CHA+	1 Data+	1 (NC)
2 CHB+	2 Clock+	2 (NC)
3 CHZ+	3 (NC)	3 (NC)
4 (NC)	4 (NC)	4 (NC)
5 Hall U-	5 Sin+	5 Sin-
6 Hall U+	6 Sin+	6 Sin+
7 Hall V-	7 Cos+	7 Cos-
8 Hall V+	8 Cos+	8 Cos+

BiSS, SSI or EnDat 2.2	Smart Abs	Extra incremental encoder
1 Data+	1 Data+	1 (NC)
2 Clock+	2 (NC)	2 (NC)
3 (NC)	3 (NC)	3 (NC)
4 (NC)	4 (NC)	4 (NC)
5 (NC)	5 (NC)	5 CHA-
6 (NC)	6 (NC)	6 CHA+
7 (NC)	7 (NC)	7 CHB-
8 (NC)	8 (NC)	8 CHB+

Can be connected simultaneously with BiSS, SSI, EnDat 2.2, or Smart Abs.

① Pin 12: 400 mA maximum total current

OPT 1 (I/O)

Pin	Signal
14	Shield
13	CREF1
12	DIN8
11	DIN9
10	USRV+
9	DOUT5
8	DOUT6

E1 and E2 (Ethernet)

Pin	Signal
7	DIN4
6	DIN5
5	DIN6
4	DIN7
3	CREF0
2	DOUT3
1	DOUT4

USB interface

Pin	Signal
1	V BUS (+5 V)
2	Data-
4	GND
3	Data+

X6 - RS485 interface

Pin	Signal
1	TXA(+)/RXA(+)
2	TXB(-)/RXB(-)
3	GND
4	+7 V out
5	(NC)
6	(NC)

X3 - Input / output

Pin	Signal
1	Status- / DOUT0-
2	DOUT2-
3	DOUT1-
4	DIN2-
5	DIN3-
6	DIN1-
7	DIN0-
8	SREF
9	SREF
10	Shield

X4 - Input / output

Pin	Signal
1	AOU0
2	AIN1+
3	AIN0+
4	Shield

Status LED

EtherCAT® NET RUN

- Off: INITIALISATION state (or not powered).
- Blinking: PRE-OPERATIONAL state.
- 1 flash: SAFE-OPERATIONAL state.
- 3 flashes: Device identification. This state can be set from the master to locate the device.
- Continuously illuminated: OPERATIONAL state. EtherCAT is operating normally.

EtherCAT® NET ERR

- Off: No errors or not powered.
- Blinking: Invalid mailbox configuration in BOOT. Invalid mailbox configuration in PREOP. Invalid Sync manager configuration. Invalid output configuration. Invalid input configuration. Invalid watchdog configuration. Invalid DC Sync configuration. Invalid DC latch configuration.
- 1 flash: Unhandled or application error. See manual MN1961WEN for details.
- 2 flashes: Sync manager watchdog.

DRIVE STATUS

The drive status display indicates general MicroFlex e150 status information. When an error occurs, the drive displays a sequence starting with the symbol E, followed by the five digit error code.

For a complete list of error codes open Mint WorkBench, press F1, and locate the error handling topics.

- Drive disabled, and one or both STO inputs are not powered
- Drive disabled
- Suspend active
- Firmware loading
- Hold To Analog (HTA) mode
- Drive enabled, but idle
- Cam move
- Dwell
- Flying shear
- Follow move
- Homing
- Incremental move
- Jog move
- Offset move
- Position move
- Torque move
- Stop input active
- Velocity reference move
- Spline move