

Zenith MX150

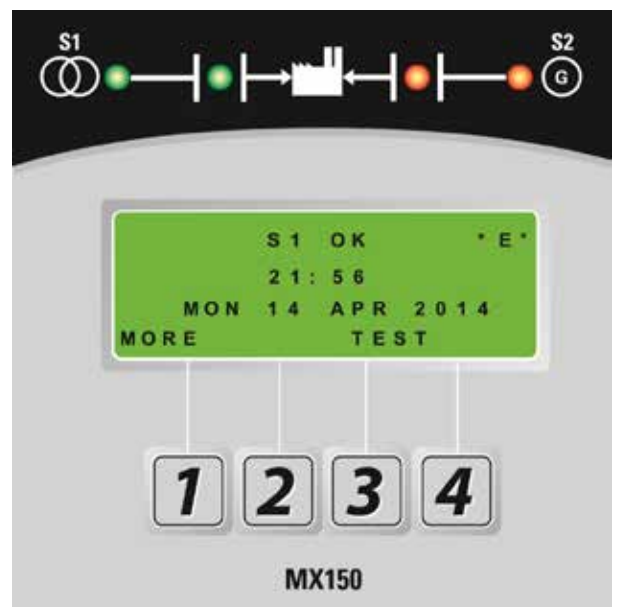
Microprocessor Controller

Introduction

ABB's Zenith MX150 microprocessor panel controls the operation and displays the status of the transfer switch's position, timers and available sources. As an embedded digital controller, the MX150 series offers high reliability and ease of unattended operation across a range of applications. Available on ABB's Zenith ZTG Series Transfer Switches.

Features and Benefits

- Digital timer adjustments with 1 second resolution
- Long lasting LED indicators and an easy-to-view 4x20 character LCD display
- Inputs optoisolated for high electrical immunity to transients and noise
- Digital voltage and frequency adjustments with 1% resolution
- Voltage and frequency sensing includes:
 - Voltage imbalance detection between phases
 - Under voltage on Source 1 (S1) and Source 2 (S2) and under frequency sensing on Source 2 (S2)
 - 3-Phase under voltage sensing on S1 (normal) and Single Phase sensing on S2 (emergency)
- Modular pre-signal option easily integrated into the system (e.g. elevator pre-signal and motor load disconnect)
- Universal Motor Disconnect (UMD) available for programming to pre-signal, post-signal or both
- Line voltage transients are isolated from the control board using remote transformers
- Optically-isolated inputs and outputs
- On-board diagnostics including voltage frequency, control and timing
- Nonvolatile memory battery backup not required during normal source outages
- External communication available through Modbus network interface (RS232)
- Maintained and momentary test push buttons are available on the controller
- Test mode allows manual bypass of all transfer timers when applicable



User-Friendly Operation

- LEDs for continuous monitoring of switch position, source availability, exercise time delay operation and diagnostic
- Simplified adjustment for voltage, frequency and time delay settings
- Close differential 3-phase under-voltage sensing of Source 1, factory standard setting 90% pickup, 80% dropout (adjustable); under-frequency sensing of the Source 1 factory setting 95% pickup (adjustable)
- Voltage and frequency sensing of Source 2, factory standard setting 90% pickup voltage, 95% pickup frequency (adjustable)
- Test switch (fast test/load/no load) to simulate normal source failure—automatically bypassed should Source 2 fail

Fully Approved

- UL and CSA listed
- Ringing wave immunity per IEEE 472 (ANSI C37.90A)
- Conducted and Radiated Emissions per EN55022 Class B (CISPR 22) (Exceeds EN55011 & MILSTD 461 Class 3)
- ESD Immunity test per EN61000-4-2 Class B (Level 4)
- Radiated RF, electromagnetic field immunity test per EN61000-4-3 (ENV50140) 10v/m
- Electrical fast transient/burst immunity test for EN61000-4-4
- Surge immunity test per EN61000-4-5 IEEE C62.41 (1.2 x 50µs, 0.5 to 4 kV)
- Conducted immunity test per EN61000-4-6 (ENV50141)
- Voltage dips and interruption immunity EN61000-4-11

Source 1 LED (Green)
indicates Source 1 is acceptable for use

Control Setting Ranges

Control Feature	Function	MX150	
		Range	Factory Setting
S1 Line Sensing – Under-voltage	Fail	75-98%	80%
	Restore	85-100%	90%
S2 Line Sensing – Under-voltage	Fail	75-98%	80%
	Restore	90-100%	90%
S2 Line Sensing – Under-frequency	Fail	88-98%*	90%
	Restore	90-100%	95%
Time Delay S2 Start	P1 Timer	0-10 seconds	3 seconds
S2 Stop Delay	U Timer	0-60 minutes	5 minutes
Time Delay S2 Stable Timer	W Timer	0-5 minutes	1 second
Time Delay S1 Stable Timer	T Timer	0-60 minutes	30 minutes
Time Delay - Motor Disconnect or Transfer Pre-signal	Acc., UMD, or T3/W3 Timers	0-60 seconds	20 seconds
Delay Transition Time Delays	DT, DW Timers	1 second-10 minutes	5 seconds

LCD Screen

Current Time, Day and Date of Display

Menus (MORE, CFG, TEST)

#1 or the word on the LCD above the key.
The word above the key changes depending on which screen is being displayed.

Notes

* 2 Hz below restore setting

Source 1 Position LED (Green)
indicates Power Panel (ATS) is closed to Source 1 position

Source 2 Position LED (Red)
indicates Power Panel (ATS) is closed to Source 2 position

Source 2 (Red)
indicates Source 2 is acceptable for use

Exercise Event "Impending"

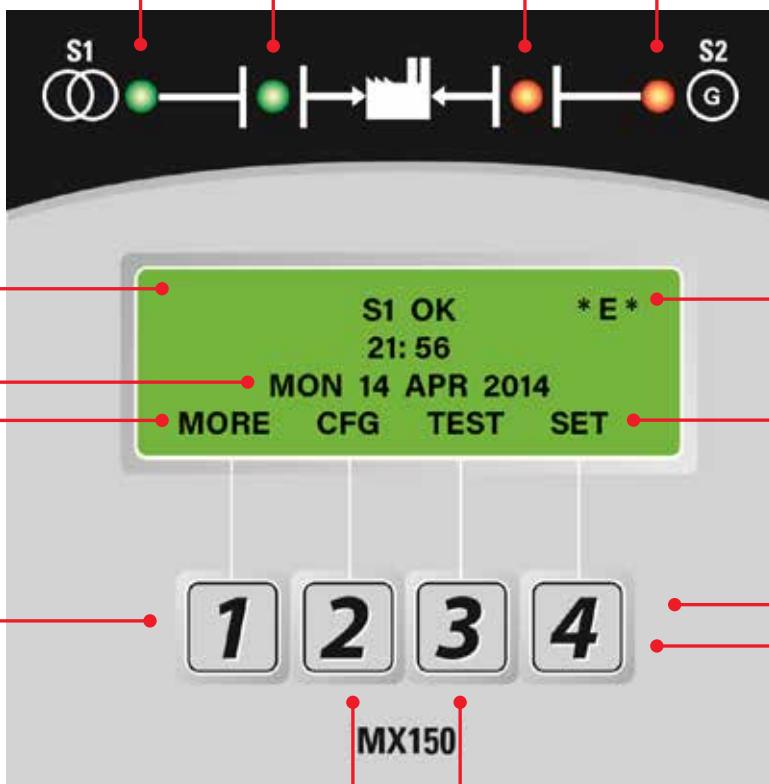
SET Menu

Keypad

#4 or the word on the LCD above the key.
The word above the key changes depending on which screen is being displayed.

#2 or the word on the LCD above the key.
The word above the key changes depending on which screen is being displayed.

#3 or the word on the LCD above the key.
The word above the key changes depending on which screen is being displayed.



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