

# FX0s-10/14/16/20/24/30 the Heavy Duty Micros

356-9846

## General Overview

The FX0s range of products offer users certain model variations which can switch higher current output signals and receive AC input signals. As with all Mitsubishi 'brick' type controllers, the power supply, CPU and I/O components are presented in a single product. The FX0s is the smallest programmable controller of its kind manufactured by Mitsubishi. The FX0s is totally (100%) compatible in a programming sense with its FX0 counterpart.

## Features Include

### Wide Tolerance Power Supply:

As with all FX Family programmable controllers, a wide tolerance power supply means concern free use anywhere in the world.

AC Supply: 100-240V  
+10% / -15%  
50/60Hz

### Choice of Input Devices:

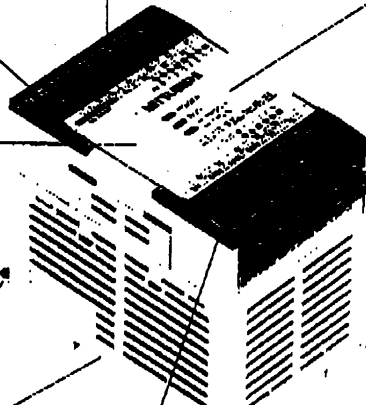
Users can choose between standard DC transistor inputs providing high speed counting and interrupt services (up to 7kHz) OR AC inputs which can accept signals between 85-132V at 50/60Hz, giving wide and flexible use in heavy engineering applications.

### Battery-less Backup:

Because of the use of EEPROM memory in the FX0s, any data which requires storage when the unit is powered down, does not rely on the quality or availability of a battery to provide backup. This makes FX0s user friendly AND a minimal maintenance product.

### User Friendly Features:

The FX0s has a useful RUN/STOP switch, allowing quick and easy operation yet it remains discreetly hidden next to the programming port. In addition there is a single analog potentiometer which can be used to indirectly change data values, timer durations etc.



### High Powered Relay Outputs:

All models of the FX0s have high powered relay outputs. These devices provide the ability to switch currents up to 2.5Amps with an activation time of approximately 10 msec.

### Flexible Mounting Arrangements:

As with all FX Family programmable controllers users are offered the choice between 35mm DIN rail or the use of direct mounting facilities.

### Large Capacity Service Supply:

The FX0s-2 & MR-ES units are equipped with a 200mA, 24V DC service supply. Uses range from sensor supplies to providing power for additional monitoring peripherals.

### Smallest Unit Footprint:

The FX0s products are the smallest footprint programmable controllers available from Mitsubishi Electric. Yet the FX0s also has high powered inputs and output facilities which make it ideal for 'Heavy Duty' applications.

## Software Features

The FX0s has the same standard 20 Basic Instructions that are found on all Mitsubishi 'brick' type programmable controllers. It also has an identical set of 35 Applied Instructions as its FX0 counterpart. This means programs can be directly interchanged between the two units. In fact 99.99% of FX0s (and FX0) programs can be used directly in the larger, FX0N Modular Micros or Compact FX controllers. The Applied Instructions used by the FX Family of controllers allows the user to utilize their controller to its best potential. For example: users have the ability to have a single phase high speed counter sensing a maximum 7 kHz input pulse. And when there are 4 single phase counters active the combined counting speed can be as high as 14 kHz. To help control these high speed functions, the FX0s has dedicated high speed instructions in its Applied Instruction set. These allow output devices to be set ON (HSCS - High Speed Counter Set) or set OFF (HSCR - High Speed Counter Reset) as count values reach preset limits.

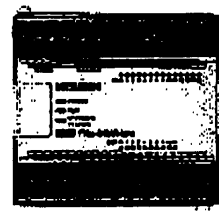
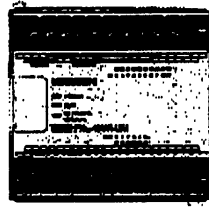
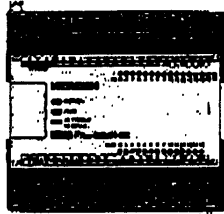
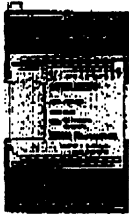
See page 37 for further software details.

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## Available Models

Power supply	Model	Total Number of I/O	Inputs		Outputs		Dimensions (mm)	Dimensions (inches)	Availability		
			Number of	Type	Number of	Type					
AC	FXos-10MR-ES/UL	10	6	24V DC Sink/Source selectable	4	Relay	75 x 90 x 60	2.95 x 3.54 x 2.36	World model		
	FXos-14MR-ES/UL	14	8		6		75 x 90 x 60	2.95 x 3.54 x 2.36			
	FXos-20MR-ES/UL	20	12		8		75 x 90 x 75	2.95 x 3.54 x 2.95			
	FXos-30MR-ES/UL	30	16		14		75 x 90 x 105	2.95 x 3.54 x 4.13			
	FXos-16MR-UA1/UL	16	10	85-132V AC	6		75 x 90 x 105	2.95 x 3.54 x 4.13			
	FXos-24MR-UA1/UL	24	14		10		75 x 90 x 105	2.95 x 3.54 x 4.13			
DC	FXos-10MR-DS	10	6	Relay	4	Sink/Source 24V DC	60 x 90 x 47	2.36 x 3.54 x 1.85	World model		
	FXos-14MR-DS	14	8		6		60 x 90 x 47	2.36 x 3.54 x 1.85			
	FXos-20MR-DS	20	12		8		75 x 90 x 47	2.95 x 3.54 x 1.85			
	FXos-30MR-DS	30	16		14		105 x 90 x 47	4.13 x 3.54 x 1.85			
	FXos-10MT-DSS	10	6	Transistor	4		60 x 90 x 47	2.36 x 3.54 x 1.85			
	FXos-14MT-DSS	14	8		8		60 x 90 x 47	2.36 x 3.54 x 1.85			
	FXos-20MT-DSS	20	12		8		75 x 90 x 47	2.95 x 3.54 x 1.85			
	FXos-30MT-DSS	30	16		14		105 x 90 x 47	4.13 x 3.54 x 1.85			
	FXos-14MR-D12S	14	8	Relay	6		Sink/Source 12V DC	60 x 90 x 47		2.36 x 3.54 x 1.85	World model
	FXos-30MR-12DS	30	16		14			105 x 90 x 47		4.13 x 3.54 x 1.85	
	FXos-14MT-D12SS	14	8	Transistor	6			60 x 90 x 47		2.36 x 3.54 x 1.85	
	FXos-30MT-D12SS	30	16		14			105 x 90 x 47		4.13 x 3.54 x 1.85	

Power Supply: AC 100V-240V, +10%/-15%, 50/60Hz.



## Environmental Specifications

ENVIRONMENTAL SPECIFICATIONS (SUMMARY)	
ITEM	AC POWERED UNITS
Dielectric withstand voltage	1500V AC for 1 min.
Insulation resistance	5MΩ or larger by 500V DC insulation resistance tester
Noise durability	Noise voltage: 1000Vp-p, width: 1μs, frequency: 30 to 100Hz, tested by noise simulator
Grounding	Class 3 grounding(100Ω or less)
Ambient operating temperature/humidity	0 to 55°C (32 to 131°F), 35 to 85% RH (no condensation), to be free from corrosive gas and dust
Vibration resistance	JIS C0911, 10 to 55 Hz, 0.5mm/0.02in.(max. 2G, 0.5G if mounted on DIN rail), 2hrs. in 3 directions
Shock resistance	JIS C0912, 10G, 3 times in 3 directions