

Comparison of EX3G-H, QM3G-FH, MX2N-FH HMI PLC all in one

Series Different	EX3G-H	QM3G-FH	MX2N-FH
Size difference			
Cutout size	<p>QM3G-43FH, MX2N-43FH and EX3G-43HB (H) are the same, Dimensions: 134*102*34mm, Cutout size: 120*94mm;</p> <p>QM3G-50FH and EX3G-50KH are the same, Dimensions: 151*96*36mm, Cutout size: 143*86mm;</p> <p>QM3G-70FH/HD and MX2N-70FH are the same, Dimensions: 200*146*36mm, Cutout size: 192*138mm;</p> <p>EX3G-70H Dimensions: 212*148*40mm, Cutout size: 194*138mm;</p> <p>QM3G-70KFH and EX3G-70KH are the same, Dimensions: 226*163*35.6mm, Cutout size: 217*154mm;</p> <p>QM3G-100FH and EX3G-100HA are the same, Dimensions: 275*194*36mm, Cutout size: 262*180mm.</p>		
HMI difference			
RAM	HB:32MB; H/KH:64MB; HA:128MB	64MB	
ROM	128MB	43FH: NOR Flash 8MB 50FH/70FH/HD/70KFH/100FH: NOR Flash 16MB	
CPU	HB: ARM9 core 216MHz H/KH: ARM9 core 400MHz HA:CORTEX A8 720MHz-1GHz	32bit CPU 408MHz	
Com port	43HB(H)/50KH: optional 1 RS232; 70H/70KH/100HA: Optional 1 RS232 or 1 RS485.	43FH/50FH comes with 1 RS232; 70FH/HD/70KFH/100FH comes with 1 RS232 or optional 1 RS485	
Ethernet port	70KH/100HA	/	
USB Host	USB2.0	/	
Audio	Optional	/	
Brightness contrast setting	Not adjustable	Adjustable	
HMI programming software	Coolmay HMI programming software	mView HMI programming software	
Label function	/	Yes, import and export (specific format: tag, txt)	
Drawing	Only three types: dots, lines, rectangles	Points, lines, rectangles, polygonal circles, ellipses, arcs, chords, hand-drawn polygons, etc. Hollow and solid graphics	
View components in order	/	Support to view the order of component creation	
Screen classification	/	Support screen grouping	
Configuration screen export	/	Supports screen export, which is convenient for project transplanted and interoperability, and is convenient for users to	

		design
Screen inheritance	/	Can make a public screen as the parent screen and be inherited by other sub screens, reducing repetitive design
Buzzer sound	Yes, but not customizable	Support custom buzzer sound (key press sound, pop-up dialog box sound, alarm sound)
System keyboard	Not customizable	Support customization
Project file protection	/	Support, and download password can be set
HMI read file	Support reading, can not set reading password	Support reading, and can set the read password
Font	Only static text supports all Windows fonts	Support all Windows fonts
Language	Support 18 kinds	Support more than one hundred languages
485 smart online	None, when the communication fails and time out, the master station needs to be powered on again to establish a connection	Yes, the slave station is online again, and the master station can automatically establish a connection with the slave station again
Macro program	Only background macro, initial macro, and sub-macro are supported. It is not convenient to write table format! Few functions provided	Multiple script calling methods, rich functions provided by the system
Staging authorization	Yes	None
Data schedule	None	Yes
PLC difference		
Instruction computing time	0.42μs/basic instruction; 1.6μs/application instruction	About 30ns/basic instruction; About 200ns (about 25ms for 8K steps)/application instruction
Digital input type	Passive NPN, common end isolation	Active NPN (common end connected to negative)
PLC type	Compatible with Mitsubishi FX3G/FX3U	Compatible with Mitsubishi FX2N
PLC programming software	Compatible with Works 2/GX Developer 8.86 version	Compatible with Works 2/GX Developer 8.52 version
Write method	Support RUN writing, it is more convenient and quick to modify the program	Does not support RUN write
PLC programming port	The download speed of the RS232 programming port can reach 115200bps, and the download speed of the USB programming port can reach 12Mbps.	DB9 port, RS232 programming port
COM port	RS485	Maximum 2 optional
	CAN	EX3G-70KH/100HA, QM3G-70FH/70KFH/100FH optional MX2N-70FH optional CAN (Only used for internal networking, and cannot coexist with weighing module)

	Ethernet port	EX3G-70KH/100HA, QM3G-70FH/70KFH/100FH optional (Cannot coexist with HMI network port)	/
	WIFI	QM3G-FH series and EX3G-70KH/100HA optional WIFI (occupying the default RS232 port)	/
Weighing module		/	70FH optional 1 channel weighing (occupies AD0~AD2)
Digital I/O		Max 30DI/30DO, Max 28 MR. Note: When the number is 30DI/30DO, the Max analog point is 5AI/2AO; when the number is 24DI/20DO, the Max analog point is 16DI/8DO.	Max 24DI/20DO, Max 17 MR
Analog	Input	Max 16DI/8DO per unit. Analog input type: EKSTJ type thermocouple (support negative temperature)/ PT100/PT1000/NTC10K/NTC50K/NTC100K/0-10V/0-5V/0-20mA/4-20mA or mixed type and other special specifications are optional;(5V~5V and -10V~10V are available for 7 inch and 10 inch).	Max 6DI/2DO per unit. Analog input type: EKJ type thermocouple/NTC10K/NTC50K/0-10V/0-5V/0-20mA/4-20mA or mixed type optional; (7 inch optional -5V~5V and -10V~10V)
	Output	0-10V/0-5V/0-20mA/4-20mA or mixed type optional (5V~5V and -10V~10V are available for 7 inch and 10 inch).	0-10V/0-5V/0-20mA or mixed type is optional.
High-speed counting		EX3G-43HB conventional 6 single-phase 10KHz or 2 AB (Z) phase + 1 AB phase 10KHz; Other models conventional 6 single-phase 60KHz or 2 AB (Z) phase 60KHz + 1 AB phase 10KHz.	Conventional 6 single-phase or 2 AB (Z) phase 10KHz; can be customized into 6 channels single-phase counting 60KHz or 2 channels AB (Z) phase counting 60KHz.
High-speed pulse		EX3G-43HB conventional 8 channels 10KHz; Other models conventional 8 channels: Y0-Y3 is 100KHz, Y4-Y7 is 10KHz; Acceleration and deceleration are independent, high-speed counting + high-speed pulse total transmission cannot exceed 480KHz.	Conventional 4 channels 10KHz, Y0-Y3; Can be customized 2 channel 200KHz and 2 channel 100KHz. Acceleration and deceleration are the same register.
Program capacity		32K steps	8K steps
Supported instructions		Supports linear arc interpolation, supports high-speed commands such as high-speed set reset, PID supports self-tuning (only supports step response mode), supports indexed multi-point transmission instructions/binary floating-point number transmission Gray code conversion, binary floating point angle and radian conversion, data block addition and subtraction, cam matrix, digital tube commands, etc.(76 more instructions than MX2N support).	Compatible with most instructions of FX2N and 3U positioning instructions floating point instructions (123 in total). High-speed instructions such as interrupts and high-speed comparisons are not supported.
Auxiliary register range		[M0~M383] 384 points for general use; [M384~M1535] 1152 points for holding; [M1536~M7679] 6144 points for general use; [M8000~M8511] 512 points for special use.	[M0~M499] 500 points for general use; [M500~M1535] 1036 points for holding; [M8000~M8255] 256 points for

		special use.
Data register range	[D0~D127] 128 points for general use; [D128~D7999] 7872 points for holding; File register [R0~R22999] 23000 points for holding; File register [R23000~R23999] 1000 points for special use; [D8000-D8511] 512 points for special use.	[D0~D199] 200 points for general use; [D200~D7999] 7800 points for holding; [D8000~D8195] 196 points for special use, holding; [D8196~D8255] 59 points for special use.
Status register range	[S0~S9] 10 points for the initial state; [S10~S999] 990 points for holding; [S1000~S4095] 3096 points for general use.	[S0~S9] 10 points for the initial state; [S10~S999] 990 points for holding.
Timer range	[T0~T199] 200 points, 100ms, general; [T200~T245] 46 points, 10ms, general; [T246~T249] 4 points, 1ms cumulative, holding; [T250~T255] 6 points, 100ms accumulative, holding; [T256~T319] 64 points, 1ms, general.	[T0~T199] 200 points 100ms, general; [T200~T245] 46 points 10ms, general; [T246~249] 4 points, 1ms accumulation, holding; [T250~T255] 6 points, 100ms accumulation, holding.
Counter range	[C0~C15] 16 points, generally 16 bits; [C16~C199] 184 points, power failure to maintain 16 bits; [C200~C219] 20 points, generally 32 bits; [C220~C234] 15 o'clock, power failure maintains 32 bits.	[C0~C15] 16 points, generally 16 bits; [C16~C199] 184 points, power failure to maintain 16 bits; [C200~C219] 20 points, generally 32 bits; [C220~C234] 15 o'clock, power failure maintains 32 bits.
Pointer, interrupt	[P0~P255] 256 point JUMP CALL; [P0~P1280] 1281 point JUMP CALL (version 26232 and above); Input interrupt 6 points I0□□~I5□□; Timer interrupt 3 points I6□□~I8□□.	[P0~P127] 128 points JUMP CALL; Input interrupt 6 points I0□□~I5□□.