

## Differences between EX3G-H、QM3G-FH、MX2N-FH and MX3G-C

Product series	EX3G-H Series all-in-one	QM3G-FH Series all-in-one	MX2N-FH Series all-in-one	MX3G-43C/70C Series all-in-one
Differences				
<b>Difference in size</b>				
open pore size	<p><b>MX3G-43C, QM3G-43FH, MX2N-43FH</b> are the same as <b>EX3G-43HB(H)</b> series, shape: 134*102*34mm, opening: 120*94mm;</p> <p><b>QM3G-50FH</b> is the same as <b>EX3G-50KH</b> series, appearance: 151*96*36mm, opening: 143*86mm;</p> <p><b>QM3G-70FH/HD</b> is the same as <b>MX2N-70FH</b> series, appearance: 200*146*36mm, opening: 192*138mm;</p> <p><b>MX3G-70C, EX3G-70HQ</b> series, appearance: 210*146*40mm, opening: 192*138mm;</p> <p><b>QM3G-70KFH</b> is the same as <b>EX3G-70KH</b> series, appearance: 226*163*35.6mm, opening: 217*154mm;</p> <p><b>QM3G-100FH</b> is the same as <b>EX3G-100HA</b> series, appearance: 275*194*36mm, opening: 262*180mm.</p>			
<b>Difference in HMI</b>				
Running memory	HB:32MB; H/KH:64MB; HA:128MB	64MB		
Storage memory	128MB	43FH: NOR Flash 8MB 50FH and above: NOR Flash 16MB	43C: NOR Flash 8MB 70C: NOR Flash 16MB	
CPU	HB:ARM9 kernel 216MHz H/KH:ARM9 kernel 400MHz HA:CORTEX A8 720MHz-1GHz	32bit CPU 408MHz		
HMI download port	43HB(H)/50KH/70HQ is Type-C; 70KH/100HA is Type-B	43FH/50FH/70FH,HD is Type-C; 70KFH/100FH 为 Type-B	Type-C	
Communication port	43HB(H)/50KH can optionally install 1 RS232; 70HQ/70KH/100HA can optionally be equipped with one RS232 or one RS485.	43FH/50FH comes with one RS232; 70FH/HD/70KFH/100FH comes with 1 RS232 or 1 RS485 is optional	HMI comes with 1 RS232	
Net port	Optional for 7 inches and above	No		
USB Host	USB2.0	No		
Audio frequency	All optional except HB series	No		
Brightness contrast setting	Non adjustable	adjust the brightness by self		
HMI programming software	<a href="#">Coolmay HMI touch screen programming software</a>	<a href="#">M view touch screen editing software</a>		
Label function	No	Yes,can import and export (specific format:tag, txt)		
Draw	There are only three kinds: point, line and rectangle	Hollow and solid figures of points, lines, rectangles, polygon circles, ellipses, arcs, chords, hand drawn polygons, etc		

Component order view	No	Support to view the sequence of component creation
Image classification	No	Support image grouping
Configuration interface export	No	Support screen export, convenient engineering transplant and mutual use, convenient user design
picture inheritance	No	It can make a public picture as a parent picture to be inherited by other sub-pictures to reduce repetitive design
Buzzer sound	Yes, but not customizable	Support custom buzzer sound (key sound, pop-up dialog box sound, alarm sound)
System keyboard	Not customizable	Support customization
Protection of engineering documents	No	Yes, and can set a download password
HMI File reading	Support reading, can not set the reading password (only allow reading and do not allow reading)	Read is supported, and a read password can be set
typeface	Only static text supports all fonts in window	Window all fonts
language	Support 18 kinds	Support more than 100 languages
485 intelligent online	No, the number of communication failure timeouts, the master station needs to be powered on again to establish the 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 supports background macros, initial macros, and sub macros, and it is inconvenient to write in table format! Provides a single function	Scripts are called in various ways, and the system provides rich functions
Installment authorization	Yes	No
Data scheduling	No	Yes

#### Difference in PLC

Instruction operation time	0.42μs/Basic instructions; 1.6μs/Application instructions	About 30ns/Basic instructions; About 200ns (about 25ms for 8K steps)/Application instructions	0.42μs/Basic instructions; 1.6μs/Application instructions
Switching value input	Passive NPN,Public-side isolation	Active NPN (Common Termination Negative)	Passive NPN,Public-side isolation
PLC type	Compatible with Mitsubishi FX3G/FX3U	Compatible with Mitsubishi FX2N	Compatible with Mitsubishi FX3G/FX3U

PLC programming software	Compatible with Works 2/GX Developer version 8.86		Compatible with Works 2/GX Developer version 8.52	Compatible with Works 2/GX Developer version 8.86
Write mode	Support RUN writing, it is more convenient and quick to modify the program		RUN write is not supported	Support RUN writing, it is more convenient and quick to modify the program
PLC programming port	Comes with two PLC programming ports (Type-C/Mini B USB port and RS232 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	Comes with two PLC programming ports (Type-C port and RS232 port) The download speed of the RS232 programming port can reach 115200bps, and the download speed of the USB programming port can reach 12Mbps.
Communication port	RS485	Up to two optional	Optional 1 RS485(does not coexist with own RS232)	With 1 RS485
	CAN	Available in 7 inches and above	MX2N-70FH can be optionally equipped with CAN (only used for internal networking, and the weighing module cannot exist at the same time)	No
	Net port	Available in 7 inches and above (Cannot coexist with HMI network port)	No	
	WIFI	QM3G-FH and EX3G-70KH/100HA can be optionally equipped with WIFI (occupies the default RS232)	No	
Weighing Module	No		70FH can optionally be equipped with 1 channel weighing (occupy AD0~AD2)	No
Switching point	Supports up to 30 inputs and 30 outputs, and up to 28 MR. Note: When the switch quantity is up to 30 inputs and 30 outputs, the analog quantity can be up to 5 inputs and 2 outputs; when the switch quantity is up to 24 inputs and 20 outputs, the analog quantity can be up to 16 inputs and 8 outputs.		Support up to 24 inputs and 20 outputs, up to 17 MR	43C: 12 in 10 out (MT2/MR8); 70C: up to 24 in 24 out (MT12/MR12)
Analog	input	A single device can have up to 16 inputs and 8 outputs. Analog input type: EKSTJ type thermocouple (can 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; (7 inch and 10 inch optional -5V~5V and -10V ~10V)。	The analog quantity of a single chip can be up to 6 inputs and 2 outputs. Analog input type: EKJ type thermocouple/NTC10K/NTC50K/0-10V/0-5V/0-20mA/4-20 mA or mixed type optional; (7 inch optional -5V~5V and	Built-in 2-channel voltage 0-10V+ 2-channel current 0-20mA + 1-channel NTC10K

			-10V~10V)	
	output	0-10V/0-5V/0-20mA/4-20mA or mixed type optional (7-inch and 10-inch optional -5V~5V and -10V~10V).	0-10V/0-5V/0-20mA or mixed type optional.	43C: comes with 1 channel voltage 0-10V+1 channel current 0-20MA output; 70C: Comes with 2-way current 0-20MA output
High speed counting	EX3G-43HB conventional 6-channel single-phase 10KHz or 2-channel AB (Z) phase + 1-channel AB-phase 10KHz; Other conventional 6-way single-phase 60KHz or 2-way AB(Z) phase 60KHz+1-way AB-phase 10KHz		Conventional 6-way single-phase or 2-way AB(Z) phase 10KHz; It can be customized into 6-way single-phase counting 60KHz or 2-way AB (Z) phase counting 60KHz.	Conventional 6-way single-phase or 2-way AB(Z) phase 10KHz; It can be customized into 6-way single-phase counting 60KHz or 2-way AB (Z) phase counting 60KHz.
High speed pulse	EX3G-43HB conventional 8-way 10KHz; Other conventional 8 way: Y0-Y3 is 100KHz, Y4-Y7 is 10KHz; The acceleration and deceleration are independent, and the high-speed counting + high-speed pulse total cannot exceed 480KHz.		Conventional 4-way 10KHz, Y0-Y3; 2-way 200KHz and 2-way 100KHz can be customized. Acceleration and deceleration are the same register.	43C: MT output conventional 4-way Y0-Y1 is 100KHz, Y2-Y3 is 10KHz; 70C: conventional 4-way Y0-Y1 is 100KHz, Y2-Y3 is 50KHz; High-speed counting + high-speed pulse total can not exceed 300KHz
Program capacity	32K steps		8K steps	16K steps
Supported instructions	It supports linear and arc interpolation, high-speed instructions such as high-speed set and reset, PID support self-tuning (only step response mode), index multipoint transmission instructions / binary floating-point transmission, gray code conversion, binary floating-point angle radian conversion, data block addition and subtraction, cam matrix, nixie tube instructions, etc. (76 more than the instructions supported by mx2n).		Compatible with most FX2N instructions and 3U positioning instructions floating-point instructions (123 in total). High speed instructions such as interrupt and high-speed comparison are not supported.	Compatible with FX3S instructions, support high-speed instructions such as high-speed reset and 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 number angle radian conversion , data block addition and subtraction, cam matrix, digital tube instructions, etc.
Auxiliary	[M0~M383] 384points General use;		[M0~M499] 500points	[M0~M383] 384points General

register range	[M384~M1535] 1152points Keep using; [M1536~M7679] 6144points General use; [M8000~M8511] 512points Special use.	General use; [M500~M1535] 1036points Keep using; [M8000~M8255] 256points Special use.	use; [M384~M511] 128points Keep using; [M512 ~ M1535] 1024points General use; [M8000 ~ M8511] 512points Special use.
Data register range	[D0~D127] 128points General use; [D128~D7999] 7872points Keep using; File register[R0~R22999] 23000points Keep using; File register[R23000~R23999] 1000points Special use; [D8000-D8511] 512points Special use.	[D0~D199] 200points General use; [D200~D7999] 7800points Keep using; [D8000~D8195] 196points Special use, keeping; [D8196~D8255] 59points Special use.	[D0~D127] [D256~D999] 872points General use; [D128~D255] [D1000~D3999] 3128points Keep using; [D8000-D8511]512points Special use.
Status Register Range	[S0-S9] 10points initial state use; [S10~S999] 990points Keep using; [S1000~S4095] 3096points General use .	[S0~S9] 10points initial state use; [S10~S999] 990points Keep using.	[S0-S9] 10points initial state use; [S10~S127] 118points Keep using; [S128~S255] 128points General use.
Timer range	[T0~T199] 200points 100ms General use; [ T200~T245] 46points 10ms General use; [T246~T249] 4points 1ms cumulative Keep using; [T250~T255] 6points 100ms cumulative Keep using; [T256~T319] 64points 1ms General use .	[T0~T199] 200points 100ms General use; [T200~T245] 46points 10ms General use; [t246~249] 4points 1ms cumulative Keep using; [T250~T255] 6points 100mscumulative Keep using.	[T0~T31] 32points 100ms General use; [T32~T62]31points 100ms/10ms After M8028 is turned ON, T32~T62 can be changed to 10ms timer;[T63~T127]65points1ms General use; [T128~T131] 4points1msKeep using; [T132~T137] 6points 100ms Keep using.
Counter range	[C0~C15] 16points General 16 bits ; [C16~C199] 184points Power outage remains 16 bits; [C200~C219] 20points General 32 bit; [C220~C234] 15points Power outage remains 32 bits	[C0~C15] 16points General 16 bits ; [C16~C199] 184points Power outage remains 16 bits; [C200~C219] 20points General 32 bit; [C220~C234] 15points Power outage remains 32 bits	[C0~C15] 16points General 16 bits ; [C16~C31] 16points Power outage remains 16 bits; [C200~C234]35points Generally both sides to 32 bits;
Pointer, interrupt	[P0~P255] 256 Points JUMP CALL; [P0~P1280] 1281 点 JUMP CALL (Version 26232 and above) ;	[P0~P127] 128points JUMP CALL;	[P0~P255] 256 points CJ CALL;

	Input interrupt 6 points I0□□~I5□□; Timer interrupt 3 points I6□□~I8□□。	Input interrupt 6 points I0□□~I5□□;	Timer interrupt 6 points I0□□~I5□□; Timer interrupt 3 points I6□□~I8□□。
--	--	--	--