

HCQX Remote Extension Modules Hardware Instruction

Manual Number HPPP1220000EN Manual Version Date 2021.8

1 Introduction

Thank you for purchasing and using the Q series remote extension modules independently developed and produced by HCFA Corporation. This Instruction will give the brief explanation for the following modules in the table:

	i wili give u le bri	ег ехрапа		ne following modules in the table.
Name	Module	Version	Power	Description
New Coupler module	HCQX-EC01-D	V1.00	16W	Connect EtherCAT and EtherCAT terminal (digital, analog modules etc.)
Coupler module	HCQX-EC-D	V1.30	8W	Connect EtherCAT and EtherCAT terminal (digital, analog modules etc.)
Digital input modul	HCQX-ID16-D	V1.10	0.78W	Connected to the local extension of main unit or the back of coupler, cannot be used alone. NPN and PNP inputs are supported.
Digital output module	HCQX-OD16-D	V1.10	1.32W	Connected to the local extension of main unit or the back of coupler, cannot be used alone. NPN output is supported.
Digital I/O module	HCQX-MD16-D	V1.10	1.032W	Connected to the local extension of main unit or the back of coupler, cannot be used alone. NPN and PNP inputs are supported, NPN output is supp orted.
Analog input module	HCQX-AD04-D	V1.10	1.044W	Analog input. Connected to the local extension of main unit or the back of coupler, cannot be used alone. Support single-ended and differential input and wide range of current/voltage input signal.16bit resolution
Analog output module	HCQX-DA04-D	V1.40	1.056W	Analog output. Connected to the local extension of main unit or the back of coupler, cannot be used alone. Supporting various current/voltage output. 16bit resolution
Temperature measurement module	HCQX-TS04-D	V1.00	1W	Connected to the local extension of main unit or the back of coupler, cannot be used alone. Supports multiple sensor signal types.
DC power module	HCQX-PW01-D	To be launched	To be launched	DC power supply module
AC power module	HCQX-PW01-A	To be launched	To be launched	AC power supply module

Tips 9 When the user selects modules according to the power, part of the power is reserved to avoid the loss during the signal transmission.

Applicable readers

For the users of HCFA O series extension modules, refer to this Instruction to perform the wing, installation, diagnosis and maintenance and requires the users to have the certain knowledge of electrical and automation. This instruction gives the necessary information for the use of HCFA Q series extension modules, please read this instruction carefully before use and make the correct operation full attention to safet

1.1 Safety Precautions

1.1.1 Safety symbols

When using this product, please follow the following safety precautions and instructions strictly. Users can check more specific safety guidelines in sections such as mounting, wiring, communication the In this Instruction, the following safety guidelines must be followed.

		0
Terminal name	Description	
B1/TC1+	Sensor interface 1 of channel 1	_
A1/TC1-	Sensor interface 2 of channel 1	
B1	Sensor interface 3 of channel 1	
B2/TC2+	Sensor interface 1 of channel 2	
A2/TC2-	Sensor interface 2 of channel 2	
B2	Sensor interface 3 of channel 2	
B3/TC3+	Sensor interface 1 of channel 3	
A3/TC3-	Sensor interface 2 of channel 3	
B3	Sensor interface 3 of channel 3	
B4/TC4+	Sensor interface 1 of channel 4	
A4/TC4-	Sensor interface 2 of channel 4	
B4	Sensor interface 2 of channel 4	
C+/C -	External cold-end interface (2-wire PT100)	

Note The two-wire sensor is connected to terminal TC1+ and TC1-; The three-wire sensor is connected to terminal TC1+, TC1 and B1.

LED indicators arrangements for temperature measurement module



Symbol	Light color	Description
Р	Green	The indicator shows the current power supply status of the module.
RUN	Red	The running state.Lit means the module is in normal running state
A1	Red	Whether ESC channel 1 of the module can respond normally.
A2	Red	Whether ESC channel 2 of the module can respond normally.
ER	Red	AD operation failure indication
AD	Red	AD operates normally atflickering



2.2.8 Right view for extension modules

Connector



Cable tie And conversion for the information and the wind of the conversion of the c

ninal Common terminal, internal connection

indicates that incorrect handling may cause hazardous conditions, resulting in death or severe injury or significant property damage A DANGER dicates that incorrect handling may cause hazardous conditions, A WARNING esulting in medium or slight personal injury or physical damage ndicates that incorrect handling may cause slight injury or property CAUTION damage. Indicates that incorrect handling may cause damage to the Note environment / equipment or data loss Tips ? Key points or explanations to help with better operation and

02

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Model name

①Model name
②Input voltage & current

understanding of product. 1.1.2 Safety symbols

STARTUP AND MAINTENANCE PRECAUTIONS

01

Q

series

DANGER Do not touch any terminal while the PLC's power is on. Doing so may cause electric shock alfunctions. Before cleaning or retightening terminals externally cut off all phases of the power supply. ailure to do so may cause electric shock. Final et ou ou son my cause clear to a know.
Before modifying or disrupting the program in operation or Forced output, RUN, STOP etc., carefully read through this Instruction and the associated Instructions and ensure the safety of the operation. An operation error may damage the machinery or cause accidents.

STARTUP AND MAINTENANCE PRECAUTIONS

amble or modify the PLC. Doing so may cause fire, Do not disast alfunctions. module repair, contact our HCFA distributor. Turn off the power to the PLC before connecting or disco o do so may cause equipment failures or malfunctions Turn off the power to the PLC before attaching or detaching o so may cause equipment failures or malfunctions Display module, peripheral devices, expansion board -Extension blocks and special adapters -Battery, terminal block and memo

/ CAUTION · Please contact a certified electronic waste disposal company for the environmentally safe

recycling and disposal of your device. TRANSPORT AND STORAGE PRECAUTIONS

The PLC is a precision instrument. During transportation, avoid impacts larger than those specified in Section 3.1. Failure to do so may cause failures in the PLC. After transportation, we the operations of the PLC.

2 Product Overview

2.1 Model name description

DISPOSAL PRECAUTIONS

2.1.1 Model name description for system modules

<u>HC QX-EC01-</u>D

 Modules

 EC
 EtherCAT coupler

 PD
 PD power extension
 Series name Power type QX QXslave terminal



3 Installation Description

3.1 Specifications 3.1.1 EC01 coupler module specifications Items Technical specifications onnect terminal module to 100BASE-T Functions therCAT network Max. extension slaves Max. 65535 Maximum acceptable data Max.4.2GB, I/O by assignable address Data transmission EtherNet/EtherCAT (at least CAT5) , shielded Up to 100m Transmiss ion EtherCAT/100Mbaud Delay About 1µs 2 x RJ45 Bus interface DC24V (-15%~+20%) Power supply Power consumptio 70mA+ (ΣQBUS Current/4) QBUS load power Max.1750mA (-25°C~+55°C) Max.1333mA 16W) 500V (power contact/supply voltage/bus field) Electrical isolati About100 mm x 49 mm x Dimensions Weight About150g Working/storage temperature 0°C~+55°C/-25°C~+75° Relative humidity 95%, no condensation IP20/Not specified

CE/UL

Certificate

3. 1.2 EC coupier module specifications							
Items	Technical specifications						
	Connect terminal module to 100BASE-TX						
Functions	EtherCAT network						
Data transmission	EtherNet/EtherCAT (at least CAT5) , shielded						
Distance betweenstations	Up to 100m						
Transmission	The sec AT (100) (haved						
protocol/transmission rate	EtherCAI/100Mbaud						
Bus interface	2 x RJ45						
Power supply	DC24V (-10%~+10%)						
Current consumption	0.6A (Typ.)						
QBUS load power	8W (Typ.)						
Electrical isolation	500V (Backboard/Input power)						
Dimension	About15 mm x 100 mm x 70 mm(Width						
Dimension	alignment 12 mm)						
Weight	About90g						
Working /storage temperature	0°C~+55°C/-25°C~+75°C						
Relative humidity	95%, no condensation						
Protection level/Installation	IP20/ Not specified						
Certificate	CE						

0" signal voltage 1" signal voltage Input response speed 1 ms QBUS power consumption Weight

11

03

6 676

MODEL:HCQX-EC01-D POWER INPUT: DC24(-15%-+20%) 70mA (Typ.)

Figure 1 Model name and nameplate description

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Output voltage & power
Ocode, S/N &P/N, The first four digits of the PN code are the version number.

MD Digital I/O AD Analog input DA Analog output MA Analog I/O

TS measurement

MODEL:HCQX-ID16-D INPUT: DC24V 5mA (Typ.)

Figure 3 Model name and nameplate description

) | | | | | | | | | | | | | |

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Input voltage & I/O current for normal operation of single channel

Eg: The version number in the figure above is V2.000. ⑤ QR code (model name, serial number)

2.2 Part name description

Output powe
 Code, S/N &P/N, The first four digits of the PN code are the version number.

Series name Function module Number of channels Power type

 Digital input
 XX
 Number of ch.
 D DC powe

 Digital output
 XX
 of ch.
 A AC powe

Eg: The version number in the figure above is V2.000. (S)QR code (model name, serial number)

2.1.2 Model name description for function modules

Symbol Color PWR Green

A2 Red

L2 Red

mounting hook

RUN

0

2

3

4

5

Red Red

Red

Red

Red

Red

14 Red

16 Red

17 Red

SS No indicate

6

7

11

12 13

15

erature -25 °C ... + 85 °C 95%, no cond ut15 mm x 100 mm x 70 mm(Width alignment 12 mm On 35 mm DIN rail Comply withEN 50022 Vibration/shock omply withEN 60068-2-6/EN 60068-2-27/29 resistance Comply withEN 61000-6-2/EN 61000-6-4 interference Protection level Installation location Certificate

0.8W (Typ.)

500 Veff (Ba

About 90g

Working temperature 0 °C ... + 55 °C

3.1.3 Digital input module specifications

Items

Input type

Input voltage

Weight

Number of input channels 10

3.1.4 Digital output module specifications HCQX-OD16-D specifications Items Output points Output type Sink output Load type Rated load voltage DC24 V (-15% / +20%) Low-level output voltage Switching time (cycle) QBUS power co 1.4W (Tvp.

Electrical isolation 500 Veff (Backboard/input interface) About 90g 0 °C ... + 55 °C Working temperature Storage temperature -25 °C ... + 85 °C Relative humidity 95%, no condensatio Dimensions out 15 mm x 100 mm x 70 mm Installation method On 35 mm DIN rail Comply withEN 50022 Vibration/shock resistance Comply withEN 60068-2-6/EN 60068-2-27/2 Anti-electromagnetic interf nce Comply with EN 61000-6-2/EN 61000-6-4 Protection level IP 20 Installationlocation Certificate Not specified

2.2.2 Main view of digital input module HCQX-ID16-D Mounting_____ QX-ID16-D 1050110150 2060120160 3070130170 DI 0 10 DI Sheetmetal Common terminal SS SS Terminal bloc Figure 4 Digital input module interfaces diagram Symbol Light color Channel description P Green The indicator show the current power supply status of the modu Red ID module running state. Lit means the module is i Input signal isdetectedby input channel 0. Red ctedby input channel 1 Input signal isdete Red Input signal is tedby input channel 2. Red Red Input signal isdetectedby input channel 3. Input signal isdetectedby input channel 4. Input signal isdetectedby input channel 5. Red Red

Descriptio r

Channel ACT indicator of PORT

Channel ACT/LINK indicator of PORT 3

Channel LINK indicator of PORT 2

 RUN
 Red
 EC module running stateLit means the module is in normal running state

 A1
 Red
 Channel ACT/LINK indicator of PORT 1

input signal isdetectedby input channel 6.
Input signal isdetectedby input channel 7.
nput signal isdetectedby input channel 10.
nput signal isdetectedby input channel 11.
nput signal isdetectedby input chanrel 12.
nput signal isdetectedby input channel 13.
nput signal isdetectedby input channel 14.
nput signal isdetectedby input channel 15.
nput signal isdetectedby input channel 16.
nput signal isdetectedby input channel 17.
C/C input common terminal

2.2.3 Main view of digital output module HCQX-OD16-D



e/sink input

-3 V ... 5 V (EN 61131-2, Typ 1) 3.6m/

15 V ... 30 V (EN 61131-2, Typ 1) 1.7mA

typ. 5 mA (EN 61131-2, Typ 1

DC24 V (-15% / +20%)

 DO
 0

 DO
 1

 DO
 2

Q-COM No indicator 2.2.5 Main view of analog input module HCQX-AD04-D

12

17 Red

Q0

Red

I3 Red

I4 Red

I5 Red

ló Red

Q1 Red Q2 Red

Q3 Red

Q4 Red

 Q5
 Red

 Q6
 Red

 Q7
 Red

I-COM No inc

Red

3.1.5 Digital I/O module specifications Items Number of channels 8 input channels Input type Source/sink input Output type Sink output Load type Input/output voltage DC24V (-15% / +2 Input"0" signal voltage -3V ... 5V (EN 611) Input"1" signal voltage 15V ... 30V (EN 611 nput response speed 1ms Switching time(cycle) nput current typ. 5 mA (EN 611 Max. output current QBUS power consumption 250mA Electrical isolation 500 Veff (Backboa About 90g /orking temperature 0 °C ... + 55 °C Storage temperature -25 °C ... + 85 °C 95%, no condens About 15 mm x stallation method On 35 mm DIN rai Comply withEN 60 Comply with EN 6 IP 20 ction level Not specified nstallation location Certificate 3.1.6 Analog input module specifications Items 4(differentia) Input channel oltage Voltage input resistance > 200 kΩ Signal current 0~20mA, 0~20mA、4~20mA



04 The indicator show the current power supply status of the module

Symbol Light color 0 4 5 Red 14 15

16 17 Mounting hook

Connecto mounting hook ,89,

termina Symbol Light color P Green The i RUN Red MD mor I0 Red I1 Red





Figure 5 Digital output module interfaces diagram

HCQX-ID16-D specification



12



	10
2.3 Product Dimensions	
Product dimensions	

49



Figure 13 Installation dimension for function module (unit:mm)









Figure 6 Digital I/O module interfaces diagram

Channel description
idicator show the current power supply status of the modul
dule running state. Lit means the module is in normal running st
Input signal is detected by input channel 0.
Input signal is detected by input channel 1.
Input signal is detected by input channel 2.
Input signal is detected by input channel 3.
Input signal is detected by input channel 4.
Input signal is detected by input channel 5.
Input signal is detected by input channel 6.
Input signal is detected by input channel 7.
Output signal is detected by output channel 0.
Output signal is detected by output channel 1.
Output signal is detected by output channel 2.
Output signal is detected by output channel 3.
Output signal is detected by output channel 4.
Output signal is detected by output channel 5.
Output signal is detected by output channel 6.
Output signal is detected by output channel 7.
I-COM input common terminal
Q-COM output common terminal



Name

V1- 0

G 1

V2- 2

G 3

V3- 4

G 5

V4- 6

G 7

G 8

Terminal name

V1-

V1+

V2-

V2+

V3+

V4-

V4+

11

12

13

14

G

connect I and G.

LED indicator arrangements for analog input module

Tips \mathcal{P}

V3-

Terminal Name 9 V1+

10 11

11 V2+

12 12

13 V3+

14 13

15 V4+

16 |4

17 G

Description

Voltage input (negative) of channel

Voltage input (positive) of channel 1

Voltage input (positive) of channel 2

Voltage input (negative) of channel

Voltage input (positive) of channel 3

Voltage input (negative) of channel 4

Current input of channel 1

Current input of channel 2

Current input of channel 3

Current input of channel 4

For current input, there is no need to short-circuit V+ and I, only

QX-AD04

P 🔳 🔳 RUN

A1

2

R 🖬 🖬 🖬

AD

(Analog grounding, 1、3、5、7、8、17 internal short-circuited)

14



06

07

correspond to the specific channel of analog input.

2.2.6 Main view of analog output module HCQX-DA04-D



Name Terminal Name V1 0 9 G 11 1 10 G V2 2 11 G l2 3 12 G V3 4 13 G 13 5 14 G V4 6 15 G 14 7 16 G

	G 8	17	G						
				-					
Terminal name		Desc	ription						
V1		Channel 1	voltage out	put					
11		Channel 1	current out	put					
V2	Channel 2 voltage output								
12		Channel 2	current out	put					
V3		Channel 3	voltage out	put					
13	Channel 3 current output								
V4	Channel 4 voltage output								
14	Channel 4 current output								
G	AGND (Internal short circuit at analog grounding G port)								

15

 \blacklozenge LED indicator arrangements for analog output module

_				
	Q)	(-D/	404	
Ρ			RUI	V
A1				
A2				
ER				
DA				

Symbol Light color Description The indicator shows the current power supply status of the
 Symbol
 Careen
 The indicator shows the current point.
 <th
 A1
 Red
 Whether ESC channel 1 of analog output module can respond normally.

 A2
 Red
 Whether ESC channel 2 of analog output module can respond normally.
 ER Red DA operation failure indication Tips 👂

When the ESC channel in the indicator respond normally, it does not correspond to the specific channel of analog output.

2.2.7 Main view for temperature measurement module HCQX-TS04-D



Name Terminal Name 9 A1/TC1 C1+ 0 B1 1 10 B2/TC2+ 2 11 A2/TC2-B2 3 12 B3/TC3+ 4 13 A3/TC3-B3 5 14 B4/TC4+ 6 15 A4/TC4 B4 7 16 C+ 8 17 C-

				13									
3.1.5 Di	gital I/O module	specifications				♦Stat	us bit	descript	ion	_	_		_
	Items		HCQX	MD16-D specifications		1 Within	2 Over	3 Limit	4	5 Limi	t 2	6 7 Err	or Re
Number	of channels	8 input channel	s +8 ou	tput channels		range	range		-	-			
Input ty	pe	Source/sink inp	ut			◆Para	ameter	setting					
leolation	method	Sink output	olation			Index	Sub- index	Des	scription		R/W	Туре	Defau
Load by	metriou	Protocoupier is	tive lice	hting load		(HEX)	(HEX)		renperon	_		.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	(HEX
Input/or	itout voltage	DC24V (-15% /	+20%)	nung load		10	00	Device	type	_	RO	UDINT	5001
Input "0"	signal voltage	-3V 5V (EN 61	1131 -2	Tvp 1) 3.6mA		10	01	Error re	gister	_	RO	USINT	0
Input"1"	signal voltage	15V 30V (EN	61131	-2. Tvp 1) 1.7mA		10	08	Device	name		RO	(20)	AD-0
Input res	sponse speed	1ms			-	10	09	Hardwa	re versio	n	RO	STRING(5)	
Switchin	g time(cycle)	1ms			•	10	0A	Softwar	e versior	,	RO	STRING(5)	
Input cu	rrent	typ. 5 mA (EN 6	1131-2	Тур 1)		10		Restore	e default				
Max. out	tput current	250mA				10		settings	6				
QBUS po	ower consumption	1W (Typ.)					1	Sub-ind	lex 1		RW	BOOL	FALS
Electrica	l isolation	500 Veff (Backb	oard/ii	nput interface)		10	00	Sync m	anager ty	ype			
Weight		About 90g					1	Sub-ind	lex 1		RO	USINT	1
Working	temperature	0 °C + 55 °C						000 1110		_	no	00.11	
Storage	temperature	-25 °C + 85 °C					2	Sub-ind	lex 2		RO	USINT	2
Relative	humidity	95%, no conder	nsation		-								<u> </u>
Dimensi	ons	About 15 mm x	100 m	m x 70 mm(Width alignment 12 mm)			3	Sub-ind	lex 3		RO	USINT	3
Installati	on method	On 35 mm DIN I	rail Co	omply withEN 50022	-								
Vibration	/shock resistance	Comply withEN	60068	-2-6/EN 60068-2-27/29			4	Sub-ind	lex 4		RO	USINT	4
Anti-electr	omagnetic interference	Comply with E	N 6100	0-6-2/EN 61000-6-4	1	10	13	TypD O	assianm	ent			+
Protectio	on level	IP 20				10	1	Sub-ind	lex 1	ene	RO	LIINT	1400
Installati	on location	Not specified			-		2	Sub-ind	lex 2	+	RO	UINT	1A01
Certifica	te	CE .			-		3	Sub-ind	lex 3	+	RO	UINT	1A02
3.1.6 Ar	alog input mod	ule specificatio	ns		-		4	Sub-ind	lex 4	+	RO	UINT	1A03
					-		5	Sub-ind	lex 5	+	RO	UINT	1A04
	Items		HCQX	-AD04-D specifications	-		6	Sub-ind	lex 6		RO	UINT	1A05
Input ch	annel	4(differentia)			-		7	Sub-ind	lex 7		RO	UINT	1A06
Signal v	oltage	0~10V、-10~10)V、-5^	·5V、0~5V、1~5V	-		8	Sub-ind	lex 8		RO	UINT	1A0
Voltage	input resistance	> 200 kΩ					9	Sub-ind	lex 9		RO	UINT	1A08
Signal c	urrent	0~20mA、4~20)mA				А	Sub-ind	lex 10		RO	UINT	1A09
Current	input resistance	250Ω		14 - X			В	Sub-ind	lex 11		RO	UINT	1A04
	ter limit frequency	SKITZ (Second-	order t	liter			С	Sub-ind	lex 12		RO	UINT	1A08
Pocoluti	ion	14bit			-		D	Sub-ind	lex 13		RO	UINT	1A00
Channe	l data refresh time	About fourchar	nole to	ke 1ms	-		E	Sub-ind	lex 14	$ \rightarrow $	RO	UINT	1A00
Measureme	nt error(Total error range	< + 0.3 % (full s	cale)0	R%(current)	-		F	Sub-ind	lex 15	$ \rightarrow $	RO	UINT	1A0E
OBUSp	ower consumption	1W (Typ.)	icuic) o.	solution of the second s			10	Sub-ind	lex 16	_	RO	UINT	1A0F
Electric	al isolation	500 Veff (Backt	ooard/l	nput interface)		10	:33	SM inpu	ut parame	eter			
Setting		No need to set t	he addi	ess, can be configured through CODESYS	; -		1	Sync. m	iode	_	RW	UINT	01
Weight		About 90g					2	Cycle ti	me		RO	UDINT	71220 (DEC
Working	g temperature	0 °C + 55 °C			-					+			(020
Storage	temperature	-25 °C + 85 °C	2				4	Suppor	ted sync		RO	UINT	3
Relative	humidity	95%, no conde	nsatior	1				mode					
Dimensi	ion	About 15 mm x	100 m	m x 70 mm(Width alignment 12 mm)	-		-		1	+			10000
Installat	ion	On 35 mm DIN	rail C	omply withEN 50022	-		5	Mini. Cy	cle time	_	RO	UDINI	(DEC
Vibratio	n/shock resistance	Comply withEN	60068	-2-6/EN 60068-2-27/29			6	Calculat	ion and c	ору	RO	UDINT	0
Anti-elect	romagnetic interference	Comply withEN	61000)-6-2/EN 61000-6-4	-			time		+			
Protecti	on level	IP 20			-		8	Obtain	cycle tim	e	RW	UINT	0
Installat	ion location	Not specified			-		9	Delay ti	me	_	RO	UDINT	0
Certifica	ate	CE			-		A	SYNCO	cycle tim	ie	RW	UDINI	0
317 Ar	alog input confi	ouration and n	arame	ter manning	-		В	SM eve	nt loss		RO	UINT	0
	nanning		2.2.10		-		20	Cycle ti	me toosn	nail	RU	UINI	U EAL C
Index	Nap	20	Index	Namo	-		20	STINCE	error	-	ĸU	BOOL	FALS
1400	Channel 1 Statur		1409	Channel 3 Status	-	60	4	Channe Wiel-1-	n i status	<u>`</u>	D.C.	RCOL	EALO
1401	Channel 1 Data /h	inolar effectivo)	1400	Channel 3 Data (hinolar effective)	-			within	ange	+	RU	BOOL	FALS
1402	Channel 1 Max. value	(bipolar effective)	1404	Channel 3 Max. value (bipolar effective)	-		2	Uver ra	ige	+	RO	BOOL	FALS
1403	Channel 1 Mini. value	(bipolar effective)	140R	Channel 3 Mini. value (bipolar effective)	-		3 F	Limit 1		+	RU	BOOL	FALS
1A04	Channel 2 Status	. ,	1400	Channel 4 Status	-		3	Error		+	RO	BOOL	FALS
1A05	Channel 2 Data (h	pipolar effective)	1A0D	Channel 4 Data (bipolar effective)	-	60	10	Digitals	alue	+	RO	INT	0
1A06	Channel 2 Max. value	(bipolar effective)	1A0F	Channel 4 Max. value (bipolar effective)	-	60	20	Max va	lue	+	RO	INT	0
								un. va		- I			

♥ Stat	us bit	description				
1 Within	2 Over	3 4	5 pit 2	6 7 Erre	8	13 14 15 16
range	ränge	contriner	nit z	En	of Rese	rived Reserved Reserved Reserved
● Para	Sub-	setting				
Index (HEX)	index (HEX)	Description	R/W	Туре	Default (HEX)	Notes
10	1000 Device type		RO	UDINT	5001	
10	1001 Error register		RO	USINT	0	Reserved
10	08	Device name	RO	STRING	HCQX	
10	00	Hardwareversion	P.O.	(20) STRING(E)	AD-04	
10	09	Software version	RO	STRING(5)		
- 10	04	Restore default	RO	511(110(5)		
10	11	settings				
	1	Sub-index 1	RW	BOOL	FALSE	
1C	00	Sync manager type				
	1	Sub-index 1	RO	USINT	1	Master→slave Mailbox d communication
	2	Sub-index 2	RO	USINT	2	Slave→master Mailbox of communication
	3	Sub-index 3	RO	USINT	3	Master→slave Process d communication
	4	Sub-index 4	RO	USINT	4	Slave→master Process d communication
1C	13	TxPD O assignment				
	1	Sub-index 1	RO	UINT	1A00	
	2	Sub-index 2	RO	UINT	1A01	
	3	Sub-index 3	RO	UINT	1A02	
	4	Sub-index 4	RO	UINT	1A03	
	5	Sub-index 5	RO	UINT	1A04	
	6	Sub-Index 6	RO	UINT	1A05	
	/	Sub-index 8	RO		1406	
	9	Sub-index 9	RO	UINT	1408	
	Â	Sub-index 10	RO	UINT	1A09	
	В	Sub-index 11	RO	UINT	1A0A	
	С	Sub-index 12	RO	UINT	1A0B	
	D	Sub-index 13	RO	UINT	1A0C	
	Е	Sub-index 14	RO	UINT	1A0D	
	F	Sub-index 15	RO	UINT	1A0E	
	10	Sub-index 16	RO	UINT	1A0F	
10	33	SM input parameter				
	1	Sync. mode	RW	UINT	01	014
	2	Cycle time	RO	UDINT	7122000 (DEC)	SM communication cycle time (ns)
	4	Supported sync mode	RO	UINT	3	Supported sync mode 0x0001: FREE RUN 0x0002: SM
	5	Mini. Cycle time	RO	UDINT	100000 (DEC)	(ns)
	6	Calculation and copy time	RO	UDINT	0	
	8	Obtain cycle time	RW	UINT	0	
	9	Delay time	RO	UDINT	0	
	A	S YNCU cycle time	RW	UDINT	0	
	В	SM event loss	KÜ PO		0	
	20	SYNC error	RO	BOOI	FALSE	
60	00	Channel 1 status		DOOL		
	1	Within range	RO	BOOL	FALSE	
	2	Over range	RO	BOOL	FALSE	
	3	Limit 1	RO	BOOL	FALSE	
	5	Limit 2	RO	BOOL	FALSE	
	7	Freez	PO	POOL	EAL SE	

6030		Mini. value	RO	INT	0	
60	40	Channel 2 status				
	1	Within range	RO	BOOL	FALSE	
	2	Over range	RO	BOOL	FALSE	
	3	Limit 1	RO	BOOL	FALSE	
	5	Limit 2	RO	BOOL	FALSE	
	7	Error	RO	BOOL	FALSE	
60	50	Digitalvalue	RO	INT	0	
60	60	Max. value	RO	INT	0	
60	70	Mini. value	RO	INT	0	
60	80	Channel 3 status				
	1	Within range	RO	BOOL	FALSE	
	2	Over range	RO	BOOL	FALSE	
	3	Limit 1	RO	BOOL	FALSE	
	5	Limit 2	RO	BOOL	FALSE	
	7	Error	RO	BOOL	FALSE	
60	90	Digitalvalue	RO	INT	0	
60	A0	Max. value	RO	INT	0	
60	B0	Mini. value	RO	INT	0	
60	C0	Channel 4 status				
	1	Within range	RO	BOOL	FALSE	
	2	Over range	RO	BOOL	FALSE	
	3	Limit 1	RO	BOOL	FALSE	
	5	Limit 2	RO	BOOL	FALSE	
	7	Error	RO	BOOL	FALSE	
60	D0	Digitalvalue	RO	INT	0	
60	E0	Max. value	RO	INT	0	
60	F0	Mini. value	RO	INT	0	
	-0	Channeln input				N=0 1 2 3
00	ino	setting				N=0, 1, 2, 3
	1	Input mode selectio	RW	USINT	01	Setting value Mode0: 0-10V, Mode1: -10-10V, Mode2: -5~5V, Mode3: 0~5V, Mode4: 1-5V, Mode5: 0-20mA
	9	Enabled channel	RW	BOOL	FALSE	Setting value True, False
	А	Enabled proportion adjustment	RW	BOOL	FALSE	Setting value True、 False
	в	Enabled peak monitoring	RW	BOOL	FALSE	Setting value True、 False
	С	Enabled filter	RW	BOOL	FALSE	Setting value True, False
	D	Enabled limit	RW	BOOL	FALSE	Setting value True、 False
	E	Enabled limi	RW	BOOL	FALSE	Setting value True、 False
	11	User scale offset	RW	INT	00	Setting value Mode0: 0; Mode1: Disabled user scale mode:0. Enabled user scale mode0-User Scale Gain-1000; Mode 2: 0; Mode3: 0; Mode4: 1000; Mode5: Disabled user scale mode 0. Enabled user scale mode 0-User Scale Gain-3000; Mode5: 4000;
						Mode6: 4000;

12	User scale gain	RW	INT	5000	Setting value Model: 5000; Model: Disabled user scale mode:5000, Enabled user scale mode:User Scale Offset+1000-1000; Mode3: 5000; Mode3: 5000; Mode3: 5000; Mode4: 3000; Mode5: Disabled user scale mode :20000, Enabled user scale mode: User Scale Offset+3000-20000; Mode 6: 20000;
13	Limit1	RW	INT	-32	Setting value Mode 0: -32~Limit2-1, Mode 1: -32768~ Limit2 1; Mode 2: -16384~ Limit2 1; Mode 3: -16~ Limit2-1 Mode 4: -16~ Limit2-1 Mode 5: -32~ Limit2-1
14	Limit2	RW	INT	32767	Setting value Mode0: Limit1+1-32767; Mode1: Limit1+1-32767; Mode2: Limit1+1-16383; Mode3: Limit1+1-16383; Mode4: Limit1+1-16383; Mode5: Limit1+1-32767; Mode5: Limit1+1-32767;
 15	Filtering setting	RW	INT	0001	Setting value

0x80n0:0A user scale adjustment enabled 0x80n0:11 user scale offset

0x80n0:12 user scale gain

Example1: [0x80n0:01:1] [0x80n0:11:1000] [0x80n0:12:5000] [0x80n0:0A:TRUE] In AD mode, the user's actual measurement range is (0x80n0:11/1000) 1~5V (0x80n0:12/1000). The value collected by the user in the corresponding analog channel can be calculated by the following formula:

> $Value \coloneqq \left(V_{actual} - \frac{offset}{1000}\right) * \left(\frac{16000}{(Gain - offset)/1000}\right)$ Convert Value to Vmeasure:

 $V_{measure} \coloneqq \left(\frac{value}{16000}\right) * \left(\frac{Gain - offset}{1000}\right) + \frac{offset}{1000}$

Value: Value collected by the analog input Vactual : Actual voltage value of measured object

Vmeasure : Measure voltage value of measured object

offset : Set offset value in 0x80n0:11

Gain: Set gain value in 0x80n0:12

0x80n0:15\0x80n0:0C filter setting

Example1: Set m to [0x80n0:0C:TRUE] [0x80n0:15:m] The default filtering mode of the AD module is mean filtering. After enabling the filter at 0x80n0:0C, according to the average filter value set in 0x80n0:15, the measured value can be calculated by the following formula:

 $V_{measure} \coloneqq \left(\frac{V_{actual1} + ... + V_{actualm}}{m} \right)$

3.1.8 Analog input value conversion and display

The user display configuration is determined by index 0x80n0:01, where the user can nodify the working mode of the channel to display values in different measurement ranges The analog module has a 16-bit resolution and the maximum display range is - 32768_{dec} to + 32767_{dec}. The measured and displayed values in different modes are as follows

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	Input/output signal								Value
HCQX-AD04-D HCQX-DA				DA04-D		Decimal	Hexadecimal		
10)V	20	mA	10)V	20mA		32000	0x7D00
5	V			5	V			16000	0x3E80
									0x0001
0V	1V	0mA	4mA	0V	1V	0mA	4mA	0	0x0000
									0x0001
بـ	öV			-5V				-16000	0xC180
-1	0V			-1	0V			-32000	0x8300

The graph shown as below:



3.1.9	Analog	output	module	specifications	

Items	Description			
Output channels	4			
Signal voltage	0~10V、-10~10V、-5~5V、0~5V			
Signal current	0~20mA、4~20mA			
Accuracy	± 0.3 %, relative to full scale			
Resolution	16bit			
Channel data refresh time	1ms			
Voltage load	> 5 kΩ			
Current load	< 350Ω			
QBUS ower consumption	1W (Тур.)			
Electrical isolation	500 Veff (Backboard/input interface)			
Process image bit width	Output4 x 16 bit data			
Setting	No need to set the address, can be configured through CODESYS			
Weight	About90 g			
Working temperature	0 °C + 55 °C			
Storage temperature	-25 °C + 85 °C			
Relative humidity	95%, no condensation			
Dimensions	About 15 mm x 100 mm x 70 mm (Width alignment: 12 mm			
Installation	On 35 mm DIN rail Comply withEN 50022			
Vibration/shock resistance	Comply withEN60068-2-6/EN 60068-2-27/29			
EMC resistance burst/statio	Comply with EN 61000.6 2/EN 61000.6.6			
resistance	Comply withen 6 1000-6-2/EN 8 1000-6-4			
Protection level	IP 20			
Installation	Not specified			
Certificate	CE			

PDO ma	apping							
	Index			Name				
	1600		Channel 1 output					
	1601		Channel 2 output					
	1602			Cha	annel 4 outp	ut		
Parame	ter setting			Chi	anner 4 outp	ut		
Index (HEX)	Sub-index (HEX)	Descriptio	n R/W	Туре	Default (HEX)	Notes		
10	00	Device typ	e RO	UDINT	5001			
10	01	Erroregiste	er RO	USINT	0	Reserved		
10	-00	Device	DO.	STRING	HCQX-DA-			
10	08	name	RO	(20)	04			
10	09	Hardware version	RO	STRING (5)				
		Software		STRING				
10	0A	version	RO	(5)				
10	11	Restore default settings	RW	BOOL				
	1	Sub-index	1 RW	BOOL	FALSE			
1C	00	Sync manager type						
	1	Sub-index1	RO	USINT	1	Master→slave Mailbox data communication		
	2	Sub-index2	RO	USINT	2	Slave→master Mailbox data communication		
	3	Sub-index3	RO	USINT	3	Master→slave Process data communication		
	4	Sub-index4	4 RO	USINT	4	Slave →Master Process data communication		
1C	:12	RxPDO assignmen	t					
	1	Sub-index1	RO	UINT	1600			
	2	Sub-index2	2 RO	UINT	1601			
	3	Sub-index	B RO	UINT	1602			
	4	Sub-index4	¥ RO	UINT	1603			
10	32	SM output	:					
	1	Sync mode	RW	UINT	1			
	2	Cycle time	RW	UDINT	7122000			
	2	Offset time	PO PO		(DEC)			
	3	Supported		ODINI	5			
	4	sync mode	RO	UINT	3			
	5	Mini. Cycl time	e RO	UDINT	100000			
	6	Calculation andcopy tim	e RO	UDINT	0			
	8	Obtain cycle time	RW	UINT	0			
	9	Delay time	RO	UDINT	0			
	А	SYNC0tim	e RW	UDINT	0			
	в	SM event loss	RO	UDINT	0			

3.1.10 Analog output configuration and parameter mapping

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	D	Offset short counting	RO	UDINT	0	
	20	Sync. error	RO	BOOL	FALSE	
		Channel 1				
16	00	parameter				
	1	Sub-index1	RO	UDINT	70100110	Output data mapping
16	01	Channel 2 parameter				
	1	Sub-index1	RO	UDINT	70100210	Output data
16	02	Channel 3 parameter				
	1	Sub-index1	RO	UDINT	70100310	Output data mapping
16	03	Channel 4 parameter				
	1	Sub-index1	RO	UDINT	70100410	Output data mapping
70	10	Output value				
	1	Channel 1	RW	INT	0	
	2	Channel 2	RW	INT	0	
	3	Channel 3	RW	INT	0	
	4	Channel 4	RW	INT	0	
80	In0	Chanel n output setting				N=0、1、2、3
	1	Output mode selection	RW	USINT	1	Setting value: Mode 0: 0~10V、 Mode 1: -
	2	Channel enabled	RW	BOOL	TRUE	
	3	User calibration enabled	RW	BOOL	FALSE	Not supported
	4	Scale adjustment enabled	RW	BOOL	FALSE	Not supported
	6	Watchdog	RW	UINT	0	Not supported
	7	Error/stop output mode	RW	UINT	0	Not supported
	8	Output value	RW	UINT	0	Not supported
	9	User scale offset	RW	INT	10000	Not supported
	А	User scale gain	RW	DINT	0	Not supported
	в	User correction value	RW	INT	16000	Not supported
	с	User maxim- um correction	RW	INT	0	Not supported

[0x80n0:01:=TRUE], the setting value can be converted to V_{output} $V_{output} \coloneqq \left(\frac{Value}{M_{max} - M_{min}}\right) * (V_{max} - V_{min})$ Value: Analog output value set by users

Mmax : Max output range, refer to Table 3.1.10 Mmin : Mini. Output range, refer to Table 3.1.10 V_{max} : Max. voltage of output range V_{min} : Mini. Voltage of output range V_{min} : Mini. Voltage of output range V_{output} : Output voltage value

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3.1.11 Analog output conversion and display

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rement error

ror range

Vorking temperature 0 °C ... + 5

Storage temperature -25 °C ...

n/shock

D-BUS

 User display rmined by index 0x80n0:01, where the user The user display configuration is deter

can modify the working mode of the channel to display values in different measurement ranges The analog module has a 16-bit resolution and the maximum display range is - 32768_{dec} to + 32767_{dec}. The measured and displayed values in different modes



Analog output signal



3.1.12 Temperature measurement module specifications

HCQX-TS04-D specifications 4 24VDC (±20%), by E-BUS (power consumption!W)
4 24VDC (±20%), by E-BUS (power consumption1W)
24VDC (±20%), by E-BUS (power consumption1W)
Thermocouple K, J, E, T, N, B, R, S (K-type by default) Thermal resistance PT100, PT1000, Ni100, Ni1000 (PT100 by default) 3-wire
No need to set the address, it can be configured by codesys; function include over -limit detection, disconnection detection, sampling periodsetting, sensor type setting, input filter setting and temperature unit conversion setting
Typical: 1Khz; Determined by sensor type, conversion time and
length
0.1 °C per digit , 0.1°F per digit
30mins
±150mV
About 100ms~1.3s. According to the configuration and filter settings, disconnection detection will take 460ms (default ON) TC time: 100ms* Number of enabled channel* Filtering times of this channel PT time: 200ms* Number of enabled channel * Filtering times of this channel
Within the range defined for the sensor in each case ; TC is default toK: -200~1370 °C, -7~55mV; PT is default to PT100: -200~850°C, 18~391Ω,







Compage of a project had















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ft° Tips PThe analog signal cable adopts twisted-pair shielded wire Equipotential is needed for the signal to be measured and "AGND"



4.1 Programming example for digital module

digital module HCQX-ID16-D as an example to illustrate: (Q1 connection has been described briefly. For more details, refer to Q1 Software Manual.)



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3.2.2 EC01 coupler module wiring description

External wiring description

Remove the connector

2. After unlocking the conne

"C" direction.

A

1. Insert the screwdriver into the upper side of the connector in the "A"

direction, and gently push it downward in the "B" direction to unlock the





3.2.3 EC coupler module wiring description





3.2.4 Digital input module wiring description

RO UDINT

0

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3.2.6 Digital I/O module wiring description





Figure 15 Wiring diagram for digital output module











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The analog output module, as the remote extension module of the Q series CPU The analog output module, as the remote extension module of the Q series CP unit, cannot work alone and needs to be connected to the EC coupler or the right side of the CPU unit. It supports both current and voltage output. HCFA offers varieties of output ranges and the working range can be modified online through SDO or COE, where the output signal can be directly used as the control signal of the motor or drive.





diagram shown as below





① Distinguish the input/output cables and make the wiring separately

This example uses the CPU unit HCO1-1300-D + coupler module HCOX-EC +

Open CODESYS V3.5 SP14, select New project The user can select the project type they want, enter the name and save path, and then click "OK"





Figure 26 Temperature measurement module wiring diagram

shown as below:

Wiring precautions

be more than 100mm.

◆ At the top of analog I/O module, 24VDC needed to be connected. The wiring diagram





② If the power cable is close to I/O signal cable, error may occur because of high









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	TC: < ± 0,3 % (for fullscale) PT: <±0.5°C
	By Q-bus
	typ.180 mA
	500 V _{eff} (E-Bus/ Field potentia)
	About90g
1	0 °C + 55 °C
1	-25 °C + 85 °C
	95%, no condensation
1	About15 mm x 100 mm x 70 mm(Width alignment 12 mm)
	On 35 mm DIN rail Comply withEN 50022
	Comply withEN 60068-2-6/EN 60068-2-27/29
	Comply withEN 61000-6-2/EN 61000-6-4
	IP 20
1	Not specified
1	CE/UL

3.1.13 Temperature measurement module configuration and parameter mapping

tion	R/W	Туре	Default (HEX)	Notes
ion	R	BOOL	0	0: No disconnection or over-limit 1: Disconnection or over-limit
ion	R	BOOL	0	
ion	R	BOOL	0	
ion	R	BOOL	0	
over- tion	R	BOOL	0	
over- tion	R	BOOL	0	
over- tion	R	BOOL	0	
over- tion	R	BOOL	0	
re	R	INT	0	10times agnification
'e	R	INT	0	10 times magnification
'e	R	INT	0	10 times magnification
10	R	INT	0	10 times

Parame	eter settin	g				
Index (HEX)	Sub-index (HEX)	Description	R/W	Туре	Default (HEX)	Notes
		Channel 1 setting				
0.0000	1	Channel enabled	RW	USINT	0	Enabled by default
0x8000	2	Sensor type	RW	USINT	0	K-type by default
	3	Filter word selection for AD	RW	UINT	0	No filteringby defaul
		Channel 2 setting				
0.0010	1	Channel enabled	RW	USINT	0	Enabled by default
0x8010	2	Sensor type	RW	USINT	0	K-type by default
	3	Filter word selection for AD	RW	UINT	0	No filteringby defaul
		Channel 3 setting				
0.0000	1	Channel enabled	RW	USINT	0	Enabled by default
0x8020	2	Sensor type	RW	USINT	0	K-type by default
	3	Filter word selection for AD	RW	UINT	0	No filteringby default
		Channel 4 setting				
00020	1	Channel enabled	RW	USINT	0	Enabled by default
0x0030	2	Sensor type	RW	USINT	0	K-type by default
	3	Filter word selection for AD	RW	UINT	0	No filtering by default
0x8040		Cold-end setting	RW	USINT	2	Cold-end OFF by default
0x8050		Set temperature unit	RW	USINT	0	°C be default
0x8060		Disconnection detection switch	RW	USINT	1	Enabled by default

3.1.14 Measuring range and performance

 \blacklozenge Temperature range for thermocouple

_		
	Туре	Range
	В	250~1800 °C
	E	-200~1000 °C
	J	-200~1200 °C
	к	-200~1370 °C
	х	-200~1300 °C
	R	0~1768 °C
	s	0~1768 °C
_ [Т	-200~400 °C

Temperature range for Thermal resistance

Туре	Range
PT100	-200~850 °C
PT1000	-200~850 °C
Ni100	-60~250 °C
Ni1000	-60~250 °C



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Performance paramete

onnection detection OFF

Disconnection detection ON:

is connected.

3.2 Wiring Description

3.2.1 Cable selection and connector wiring

Sampling accuracy

PT: ±0.5°C

Cable selection

Cable length

Item Installation method

Push force (per contact) Cable type

TC: 100ms* Number of enabled channel* Filtering times of this channel

PT: 200ms* Number of enabled channel* Filtering times of this channel

Note⁹ It is recommended to turn off the disconnection detection after the sensor

TC error will exceed 0.3% when connecting TS to the module, so it is

Copper wire only (aluminum cable is not allowed)

2 Insert the qualified cable to

another square wiring socke

Use a cable tie to fix the cable ugh the hole at the bottom of

Apply a force of more than 10N

Test once for 7 sampling cycles and each takes 450ms.

TC: ± full scale * 0.3% (No module connected to TS)

NoteP Excluding the error of connecting PT or TC sensor.

recommended to connect the TS at the end.

7-9 mm

Take out the small screwdriver in the package and insert it into the square socket of the connector, applying a force of more than 10N. And then insert the qualified cable from another square wiring socket (located inside the

module)) to the bottom, loosen the screwdriver, gently pull the cable up and

C

After completing the wiring of the connector, use a cable tie to fix the cables through the hole at the bottom of the connectors and cut off the excess cable ties escrewdriver, gently pull the cable up and down until the cable is clamoset.

,#Q,

p. p. p.

. pa aj

 single-stranded
 0.08-1.50
 mm²/28-16
 AWG

 Multi-stranded
 0.25-1.50
 mm²/24-16
 AWG

 Sleeve
 0.25-0.75
 mm²/24-20
 AWG

Connector wiring

0000 0000 0000

down until the cable is clamped

R

23



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1. Align the connector end with the extension module bottom. After aligning and ing, press the terminal down in the B direction as shown belo

Connector installation



2. After inserting the connector successfully, press it in the "C" direction until you hear the "click", then connector installation has be



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4) After communicating with Q1 device, click Device \rightarrow Add device \rightarrow EtherCAT



 Double click EtherCAT Master SoftMotion, and find the "Source Address (Mac)" under the "General" on the right and select the correct EtherCAT network · · · · · · EtherCAT.
 Data
 Biochasty Read(this)
 Ether Call Toring

 Biochasty Read(this)
 Biochasty Read(this)
 Biochasty Read(this)

 Biochasty Read(this)
 Biochasty







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) Use ST programming language to define two groups of BYTE variables in PLC_PRG, and map them to the corresponding input variables.



8) Map the two groups of channels of HCQX-ID16-D to the variables DI_0 and $\mathsf{DI_1}$ defined in the program, respectively, as follows:



9) After no error for compiling, log in and run the program, and observe whether the value change of the input variable corresponds to the input signa to the corresponding input channel in the program.

4.2 Programming example for analog module

This example uses the CPU unit HCQ1-1300-D + coupler module HCQX-EC + analog module HCQX-AD04-D as an example to illustrate: (Q1 connection has been described briefly. For more details, refer to Q1 Software Manual.) 1) Open CODESYS V3.5 SP14, select New project. The user can select the project type they want, enter the name and save path, ind then click "OK".







3) Double click Device \rightarrow Scan network, then select the Q1 device and click "OK"



After communicating with Q1 device, click Device→Add device→EtherCAT Master SoftMotion



5) Double click EtherCAT Master SoftMotion, and find the "Source Address (Mac)" under the "General" on the right and select the correct EtherCAT netw



abort 20

6) Right-click EtherCAT Master SoftMotion to select the scan device and for the module, which works normally and has established communication, find it in the "Scan device" and click the "Copy all devices to the project" in the lower right corner to add the module to the project.







iAnaloginput1_V and iAnaloginput1_A defined in the program, respectively, as



red. First, select

* 1	× /B	EtherCAT_Master_SoftMotion	1 10	c.ma iii	g Device 🖉 😸 HK	X 0_HHDA.XQ		
entry (and regarding to the set of the set	•	Address Autobic Address BharCAT Address Distributed Clack D Startup checking D DC cyclic unit cont D Watchdog	1 002 0		Additional Chable Expert 1 Coptional Timesouts	Ether CA	EtherCAT.	
		Disabled Configured Ration	Kilas (ADO (w0012) 00 (x4134)	Value	308.2	0	
HCOX_EC_D (HCOR EC-0)								

0x80N0:01 and confirm that the channel 16# 0x80N0:09 is turned (that 24VDC is supplied normally). For more specific parameter setting, refer t



11) After the config under the External Tomportune completion (include and content input channel Values under the External Tomportune) include and the content of the second seco General Bipert Process Data Process Data Startup Parameters EtherCAT U/O Mapping EtherCAT U/O Mapping

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 Image: Section 2016 (Section 2016)

 Image: Section 2016 (Section 2016)<









9) After no error for compiling, log in and run the program, and Set the current channel operating mode according to signal type to be measured. First the channel to be set, and then tick "Enable Expert Mode" in "General".



10) Set the working mode for the module under the CoE online page 16#



