

SOYAL

Programmable Controller

Operation Manual

AR-401E



AR-401E is a programmable controller that provides an optimum solution for access and industrial integration in centralized and distributed system architectures. AR-401E offers I/O event control and user friendly programming development tools, fulfilling PLC requirements in access control system.

SPECIFICATION

Model No.		AR-401E	AR-401DI16	AR-401RO16
Even Log		10,000	--	
Power Requirement		9-24VDC		
Power Consumption		1W	1W	12W
Communication Interface		RS-485 / Ethernet (optional)		
Baud Rate	RS-485	9600 bps / 19200 bps (N, 8, 1)	4800 bps / 9600 bps / 19200 bps (N, 8, 1)	4800 bps / 9600 bps / 19200 bps (N, 8, 1)
	Ethernet	10M		
Channel		<ul style="list-style-type: none"> • 2 RS-485 Scan Channel, • 1 RS-485 for Host (replaceable to Ethernet module) 	16 Contact Input (Sink, N. C. type)	16 Form C Relay Output
LED Indicator		Power, Tx / Rx	Power, Tx / Rx, Input Close / Open/ Break	Power, Tx / Rx Relay On / Off
Data Capacity		8M Bytes SRAM Memory 60 Days Memory Backup	-	
Remote IO Capacity		512	-	
Virtual IO Capacity		512	-	
Sequential Step		2048	-	
Real Time Clock		Yes	-	
Dimensions		97mm(H)*44mm(W)*180mm(D)		
Gross Weight		600g ± 50		
Housing Material		Metal		

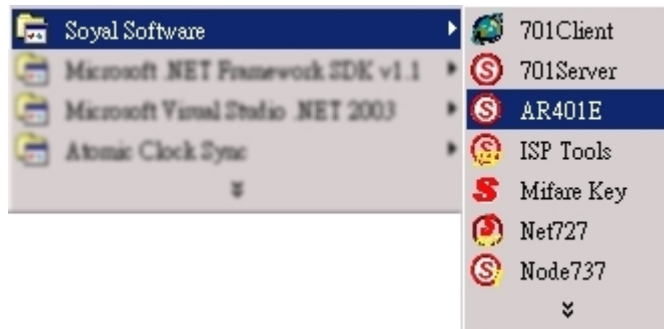
AR-401E Software

Step1) Install "SoyalDeviceTools.exe"

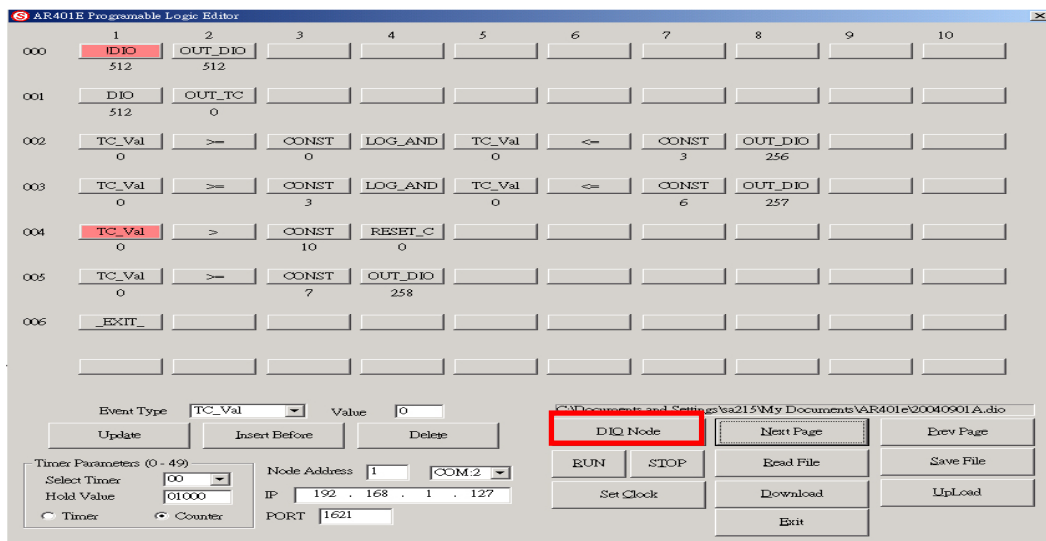
(Pls get it from your distributor or download it from www.soyal.com .)

Step2) Close / Shut down your "701Server" program.

Step3) Execute "AR401E" tool at [Soyal Software] program folder.



【DIO Node】 Input / Output definitions



【I / O Mapping】

Digital I/O	0 ~ 255	CH 01
Digital I/O	256 ~ 511	CH 02
Virtual I/O	512 ~ 1023	
Timer / Counter	0 ~ 49	

【Node Mapping】

Channel 01:

Node No.	Node 1	Node 2	Node 3	Node 4	Node 5	Node 6	Node 7	Node 8
I/O Mapping	000~015	016~031	032~047	048~063	064~079	080~095	096~111	112~127
Node No.	Node 9	Node 10	Node 11	Node 12	Node 13	Node 14	Node 15	Node 16
I/O Mapping	128~143	144~159	160~175	176~191	192~207	208~223	224~239	240~255

Channel 02:

Node No.	Node 1	Node 2	Node 3	Node 4	Node 5	Node 6	Node 7	Node 8
I/O Mapping	256~271	272~287	288~303	304~319	320~335	336~351	352~367	368~383
Node No.	Node 9	Node 10	Node 11	Node 12	Node 13	Node 14	Node 15	Node 16
I/O Mapping	384~399	400~415	416~431	432~447	448~463	464~479	480~495	496~511

【Function Definitions】

Function	Descriptions	Function	Descriptions
Event Type	Command Type	Timer Parameters	Timer setting
Value	--	Select Timer	--
Update	Rewrite the present command	Hold Value	The fixed value
Insert Before	Insert command before the present command	Timer	Time calculator
Delete	Delete command	Counter	Frequencies calculator
Next Page	Next Page	Node Address	Set Node No. and Communication port
Prev Page	Previous Page	TCP / IP	Transmission Control Protocol / Internet Protocol
RUN	Execute program	PORT	Communication Port
SSTOP	Stop program	Total Events	The total lines and route of program
Read File	Read the existent *.dio file	DIQ Node	Set node mapping
Save File	Save current program to *.dio	Set Clock	Adjust clock by PC time
Upload	Read data back from AR-401E	Download	Write the data to AR-401E

【Command Definitions】

Command	Descriptions	Command	Descriptions
EXIT	The end of program	OUT_TC	Timer Counter
NULL	Nullified command	REST_C	Reset Counter
DIO	Input (NO)	LOG_AND	logic expression (AND)
! DIO	Backward Input (NC)	LOG_OR	logic expression (OR)
TC	Time counter	LOG_XOR	logic expression (XOR)
! TC	Backward time counter	VAL_AND	Value expression (AND)
CONST	Constant value	VAL_OR	Value expression (OR)
TC_Val	Value of time counter	VAL_XOR	Value expression (XOR)
SEC	Second	VAL_ADD	Value expression (ADD)
MIN	Minute	VAL_SUB	Value expression (SUB)
HOUR	Hour	=	Equality
DAY	Day	! =	Inequality
MONTH	Month	>=	Greater or Equality
YEAR	Year	<=	Less or Equality
Week	Week	>	Greater
OUT_DIO	Output	<	Less

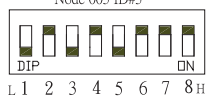
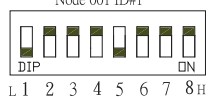
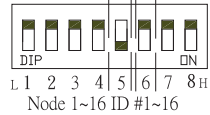
1 Specification

- Communication: RS-485 / Ethernet (optional)
- Baud rate : 4800 bps / 9600 bps / 19200 bps(N, 8, 1)
- Channels : 1. 16 Form C Relay Output
 - 2. N.O./N.C. select via Jumper
 - 3. 4 COM. were dispatched 16 Relay separately
- Power Supply : +9 ~ +24VDC
- Contact Rating: AC : 110V@0.6A DC : 24V@2A
- LED indicator Power,Tx/Rx, Relay On/ Off
- Option : AR-727i 10M Ethernet (AR-401RO16/i)
- Dimension(mm) : 97(H)*44(W)*180(D)
- Weight (g) : 600±50
- Housing Material : Metal

2 AR-401DI16 Node ID Setting

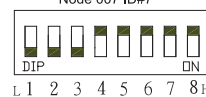
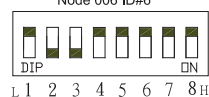
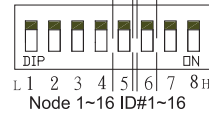
BAUD4800 for Elevator Control

SW1-4: Node ID Selection
SW 5 ON, SW6 OFF



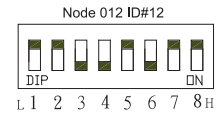
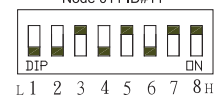
BAUD9600

SW1-4:Node ID Selection
SW 5 OFF, SW 6 OFF



BAUD19200

SW1-5:Node ID Selection
SW 6 ON

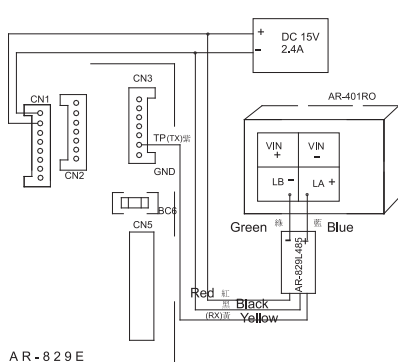


#1	#2	#3	#4	#5
1~16	17~32	User Number decode output by binary	33~48	49~64

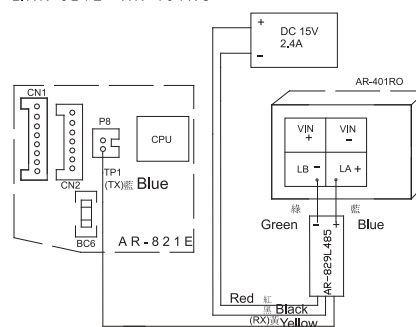
Ethernet	Function	
SW 8	<input type="checkbox"/>	<input type="checkbox"/>
	RS-485 Setup	RUN
SW 7	<input type="checkbox"/>	<input type="checkbox"/>
	DHCP ON	DHCP OFF

3 Diagram of AR-401RO16 and 829E, 821E, 721H, 727H

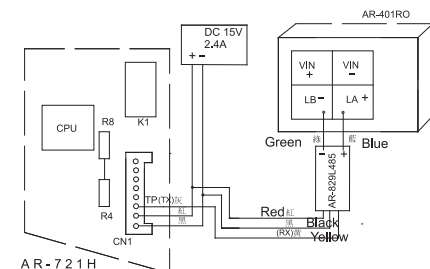
1. AR-829E AR-401RO



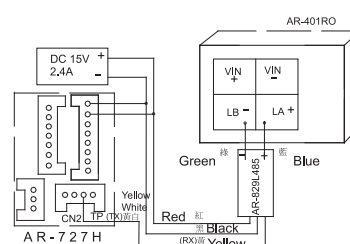
2. AR-821E AR-401RO



3. AR-721H AR-401RO



4. AR-727H AR-401RO



1 Features

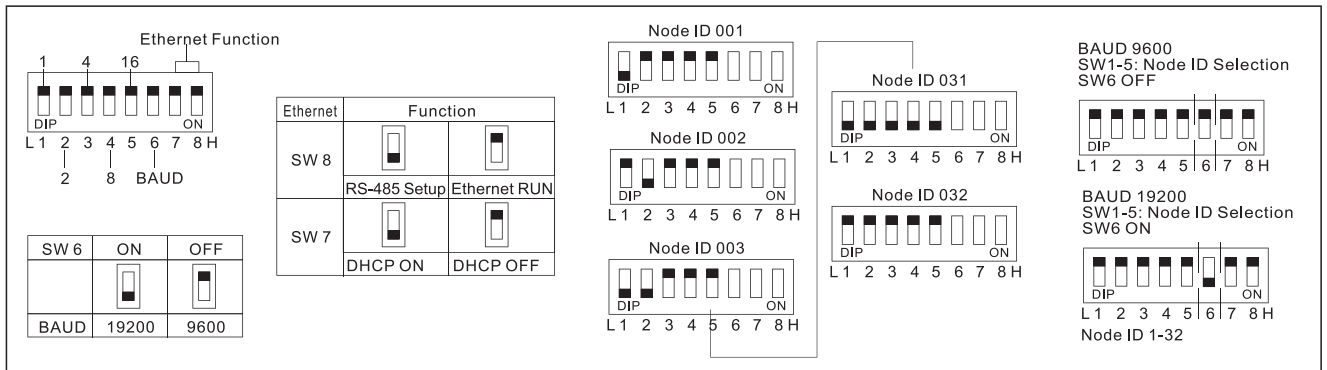
- Optional Ethernet Interface
- Built-in Watchdog Timer

2 Specification

- Baud rate : 9600 bps / 19200 bps (N, 8, 1)
- Communication: RS-485 / Ethernet (optional)
- Channels : 1. 16 N.C. Contact Input
2. Loop condition Open / Close / Break
- Power Supply : +9 ~ +24VC
- Input type : Dry contact or open collector sink
- LED indicator Power, Tx/Rx, Input Close/Open/Break
Network communication : Link, ACT, Busy
- Option : AR-727i 10M Ethernet (AR-401DI16/i)
- Dimension(mm) 97(L) x 44(W) x 180(H)
- Weight (g) 600± 50
- Housing Material : Metal

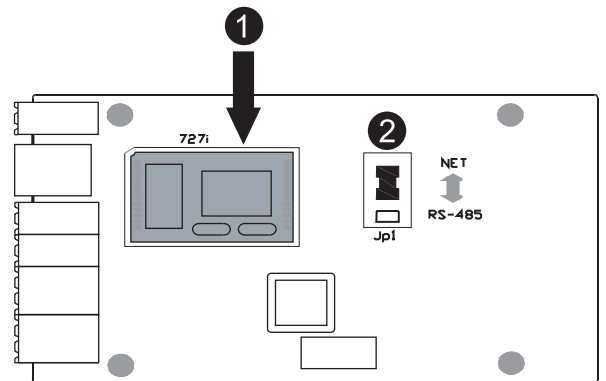


3 AR-401DI16 Node ID Setting

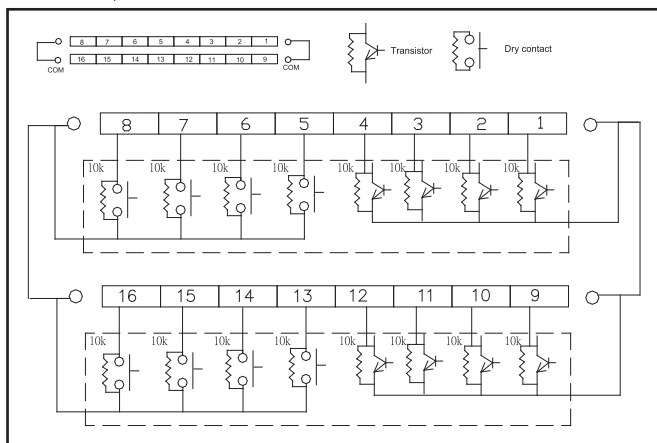


4 AR-401DI with Ethernet Interface :

- Equipment : AR401DI & AR727i Serial Device Network Module(sold separately)
- Installation Notice :
 - Please put AR 727i on the pcb of AR-401DI for installation
 - JP1 jump to "Net" Selection
 - Installation complete



5 AR-401DI16 Installation



Please visit www.soyal.com.tw to download the operation manual for more detailed information. AR-401DI is also allowed to operate through software please contact your supplier to acquire it.