

c3controls line of compact programmable relays are integrated, and ready to use, with a wide range of programmable functions. With up to 250 lines of ladder logic programming, these devices are a cost-effective solution designed for use in small commercial and industrial automation.

Smart PROGRAMMABLE RELAYS

Programmable Relays 356

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NOTE: The scope (range, description, price, specifications, dimensions, etc.) of the product featured in this section is subject to change without notice. Refer to www.c3controls.com for product updates.

Conformity to Standards:

UL 508
IEC 61000-4, 61010

Certifications:

UL Listed
CE Marked (per EU Low Voltage Directive 2006/95/EC and EMC 2004/108/EC)



Visit www.c3controls.com to download product certifications.

IT'S EASY TO BUILD YOUR OWN PROGRAMMABLE RELAY

Simply pick the code number from each of the sections below and combine them to build your part number. See page 6 for more detailed directions.

Smart Programmable Relays

8I 40
I II III IV

Example: To build one of our most popular Programmable Relays, the part number would be **I + 8I + 40 + IV** or **900-SBA8I4OZC**



I. MODULE TYPE

CODE	DESCRIPTION	PRICE
900-SBA	Smart Programmable Relay Base Module	\$127.00
900-SEA	Smart Programmable Relay Expansion Module	\$ 82.00

III. NUMBER OF OUTPUTS

CODE	DESCRIPTION
40	4 Relay Outputs

II. NUMBER OF INPUTS

CODE	DESCRIPTION
8I	8 Power Inputs*

*NOTE: 8 Digital Inputs for 110 ~ 240V AC Model; 6 Digital Inputs & 2 Analog Inputs (analog inputs can be used as digital) for 12 ~ 24V DC Model.

IV. VOLTAGE

CODE	DESCRIPTION
ZC	12 ~ 24V DC
M	110 ~ 240V AC (50/60 Hz)

DISCOUNT
SCHEDULE **C**

SOME OF OUR POPULAR CONFIGURATIONS:

SMART PROGRAMMABLE RELAYS

CATALOG NUMBER	DESCRIPTION	PRICE
900-SBA8I4OZC	Smart Programmable Relay, Base Module, 8 Inputs/4 Outputs, 12-24V DC Operating Voltage	\$127.00
900-SBA8I4OM	Smart Programmable Relay, Base Module, 8 Inputs/4 Outputs, 110-240V AC Operating Voltage	\$127.00
900-SEA8I4OZC	Smart Programmable Relay, Expansion Module, 8 Inputs/4 Outputs, 12-24V DC Operating Voltage	\$ 82.00
900-SEA8I4OM	Smart Programmable Relay, Expansion Module, 8 Inputs/4 Outputs, 110-240V AC Operating Voltage	\$ 82.00

AVAILABLE MODULES FOR SMART PROGRAMMABLE RELAYS



Base Module



Expansion Module

SERIES 900 SMART PROGRAMMABLE RELAYS

The c3controls Series 900 Smart Programmable Relay family was designed for use in small commercial and industrial automation sectors, including auto-packaging machines, auto-printing machines, domestic and commercial building controls, auto parking controls, lighting applications, and more. Rated IP20 with UL and CE markings, making them suitable for use anywhere in the world.

Product features include:

- Compact size – only 72mm (2-53/64") wide x 90mm (3-35/64") high x 65mm (2-9/16"), reducing panel area requirements for lower installed costs.
- Integrated, ready to use, wide range of programmable functions including 16 timers, 16 retentive selectable 4 digit up/down counters, 16 time switches, 16 compare counters, 16 soft text messages, 32 auxiliary relays and 12 analog comparators.
- Ability to add up to three (3) expansion modules, expanding I/O to 32 digital inputs, 16 relay outputs.
- 35mm DIN rail mounting for fast and easy installation and removal or panel mounting for a more secure installation in high shock and vibration applications.
- Up to 250 lines of ladder logic programming.
- Series 900 SPR-soft PC software and manual available for download (www.c3controls.com), for easy program creation, simulation and transfer to the device.

System Requirements:

- Pentium II PC (200 MHz or higher)
- 256MB RAM
- 80MB free hard drive space
- Screen Resolution 800x600 or better

Operating System:

- Windows 2000, XP, Vista



UNIQUE PRODUCT FEATURES



1. 8 digital inputs, 4 relay outputs.
2. Two (2) analog inputs (0 ~ 10V) in 12 ~ 24V DC model, which can be used as digital inputs.
3. Backlit LCD screen for display and modification of pre-selected parameters of function blocks, viewing I/O status and easy programming on the device.
4. Soft keys for convenient creation and editing of programs at the device.
5. Communication module inputs allow programmable relay to be connected to a Modbus network through RS 485 link.
6. Available memory card for data transfer and program backups.
7. Available USB cable allows for easy connection to a PC or laptop for quick program and data transfer.

PC SERIAL CABLE



**NEW
PRODUCT
OFFERING!**

The Series 900 Smart Programmable Relay Serial Cable allows for easy connection to a PC or Laptop for quick program and data transfer. The serial cable is a 9 pin female connector.

CODE	DESCRIPTION	PRICE
900-SCC1A	PC Serial Cable	\$ 42.00

PC USB CABLE



**NEW
PRODUCT
OFFERING!**

The Series 900 Smart Programmable Relay USB Cable allows for easy connection to a PC or Laptop for quick program and data transfer. The USB cable is USB 2.0 compatible.

CODE	DESCRIPTION	PRICE
900-SCC2A	USB Cable	\$ 24.00

DISCOUNT
SCHEDULE **C**

MEMORY CARD



**NEW
PRODUCT
OFFERING!**

The Series 900 Memory Card allows for quick copy and distribution of program files from one Series 900 Smart Programmable Relay to another, removing the requirement of connecting each programmable relay to a PC or laptop.

CODE	DESCRIPTION	PRICE
900-SMEM1A	Memory Card	\$ 12.00

COMMUNICATION MODULES



**NEW
PRODUCT
OFFERING!**

The Series 900 Smart Programmable Relay Communication Modules allow the Series 900 Smart Programmable Relay to be connected to a Modbus network through an RS 485 link. The communication module is available in two (2) operating voltages, 12 ~ 24V DC and 85 ~ 265V AC. The connection between the communication module and smart programmable relay base module is made through the communication module's cable (included).

CODE	DESCRIPTION	PRICE
900-SCM1ZC	RS 485, 12 ~ 24V DC Communication Module	\$159.00
900-SCM1M	RS 485, 110 ~ 240V AC Communication Module	\$159.00

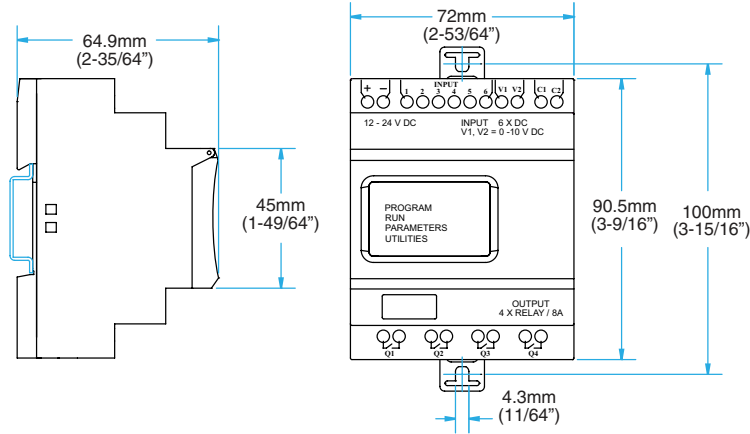
SPECIFICATIONS:

SMART PROGRAMMABLE RELAYS			
		900-SBA8I40ZC	900-SEA8I40M
ELECTRICAL GENERAL			
	UNITS		
Operating Voltages		12 ~ 24V DC	85 ~ 265V AC
Power Consumption	VA	5	5
Current Draw	mA	360	36
Protection Reverse Polarity (for the supply)		Yes	NA
Number of I/O		8 Inputs / 4 Outputs	
Input Type			
Number of Digital Inputs		8	8
Number of Analog Inputs		2	0
Output Type		Relay	
I/O Expansion		Yes	
Maximum Number		3	
Modbus Communication		Yes	
Type		RTU	
Master / Slave		Slave	
AVAILABLE FUNCTIONS			
Timers		16	
Counters		16 Up / Down	
Selectable Retentive		Yes	
Time Switches (RTC)		16 Weekly	
Analog Comparators		12	0
Compare Counters		16	
Soft Text Messages		16 Priority Driven	
Auxiliary / Holding Relays		32	
PROCESSING CHARACTERISTICS			
Cycle Time	msec.	100 with all special function blocks and retentive timers	
Response Time	msec.	8.5 + Cycle Time	
Backup Duration	Hrs.	100	
Clock Accuracy		1.7 sec per day	
Timer Block Accuracy			
Seconds	msec.	±5	
Minute-Seconds	msec.	±330	
Hour-Minutes	s	±20	

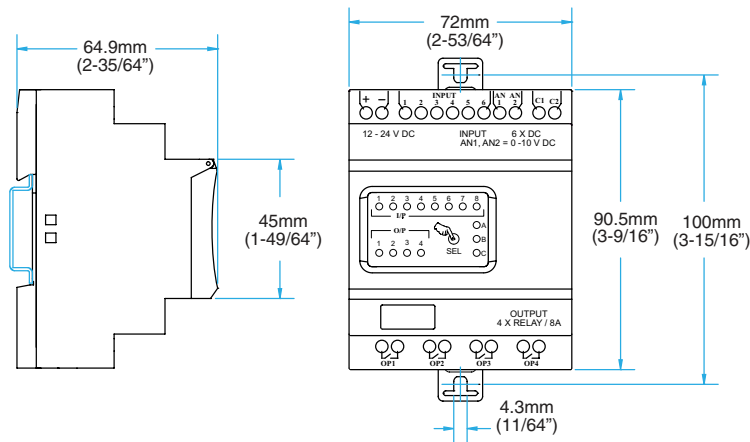
SMART PROGRAMMABLE RELAYS

		900-SBA8140ZC	900-SEA8140M
INPUT CHARACTERISTICS			
	UNITS		
Digital Inputs			
Input Range	V	0 ~ 4V DC – Off 8 ~ 26.5V DC – On	0 ~ 40V AC – Off 85 ~ 265V AC – On
Maximum Voltage	V	26.5V DC	265V AC
Maximum Input Frequency	Hz	6	6
Analog Inputs			NA
Number of Analog Inputs		2	
Input Range	V	0 ~ 10V DC (10-bit resolution)	
Input Impedance	W	8	
Maximum Input Voltage	V	26.5V DC	
Maximum Cable Length Between Modules	cm	15	
OUTPUT CHARACTERISTICS			
Operating Range	V	10 ~ 26.5V DC or 85 ~ 265V AC	
Contact Type		Form A	
Maximum Operating Current			
Resistive Load	A	8	
Inductive Load	A	5 (at $\cos\phi = 0.4$)	
Maximum Switching Rate			
Mechanical	Ops./hr.	360,000	
Electrical	Ops./hr.	360	
Mechanical Life	Ops. (mil)	10	
Electrical Life	Ops.	100,000	
CONSTRUCTION			
Ingress Protection			
Enclosure		IP40	
Terminals		IP20	
Terminal Capacity			
Solid Strand	mm ²	1.0 ~ 2.5	
Fine Strand	mm ²	1.0 ~ 2.5	
	AWG	18 ~ 14	
Tightening Torque	Nm	0.5 ~ 0.8	
	Lb-in.	5 ~ 7	
Weight	g	232	248
	oz.	8.2	8.7
Ambient Operating Temperature		0 to +50° C (+32 to +122° F)	
Ambient Storage Temperature		-20 to +70° C (-4 to +158° F)	
Shock		30g at 11msec (Non-repetitive)	
Vibration		5g	
Humidity		35% to 85% Relative Humidity (Non-condensing)	
Altitude		2,000m (6,528ft.)	
RoHS Compliance		For RoHS compliance documentation by product, refer to www.c3controls.com	

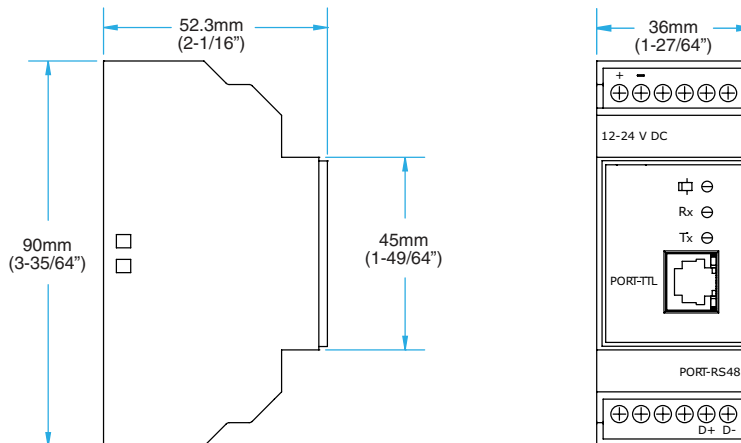
SMART PROGRAMMABLE RELAY BASE MODULE



SMART PROGRAMMABLE RELAY EXPANSION MODULE



SMART PROGRAMMABLE RELAY COMMUNICATION MODULE



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— **Geoff Taylor**
President, c3controls



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