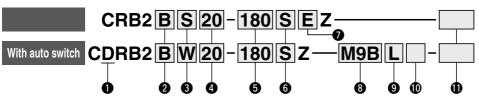
# **Rotary Actuator** Vane Type CRB2 Series



Size: 10, 15, 20, 30, 40

#### How to Order



#### With auto switch

(With auto switch unit and built-in magnet) \* Refer to page 159 when the auto switch unit is needed separately.

#### **Mounting**

•	• mounting						
Symbol	Mounting						
В	Basic type						
F*	Flange type						

\* F: Except size 40

#### Shaft type

Chaft tupo	Shaft-end shape					
Shan type	Long shaft	Short shaft				
Single shaft	Single flat*	_				
Double shaft	Single flat*	Single flat				
Double shaft	Round shaft	Single flat				
Double shaft	Round shaft	Round shaft				
Single shaft	Round shaft	_				
Double shaft	Single flat*	Long shaft with single flat *				
	Single shaft Double shaft Double shaft Double shaft Single shaft	Shaft type Long shaft Single shaft Single flat* Double shaft Double shaft Double shaft Double shaft Round shaft Single shaft Round shaft Round shaft				

\* A key is used for size 40. \*\* J, K, T and Y are made to order. \*\*\* When an auto switch is mounted to the rotary actuator, only shaft types W and J are available

#### 9 Electrical entry/Lead wire length

Nil	Grommet/Lead wire: 0.5 m
М	Grommet/Lead wire: 1 m
L Grommet/Lead wire: 3 m	
CN	Connector/Without lead wire
С	Connector/Lead wire: 0.5 m
CL	Connector/Lead wire: 3 m

- Connectors are available only for the R73, R80, T79,
- \*\* Lead wire with connector part nos. D-LC05: Lead wire 0.5 m D-LC30: Lead wire 3 m D-LC50: Lead wire 5 m

Made to Order

For details, refer to the next

#### Rotating angle

	9	
0:1-	90	90°
Single	180	180°
vane	270	270°
Double	90	90°
vane	100	100°

#### 6 Vane type Single vane Double vane

# Connecting

- po	rt location
Nil	Side ported
E	Axial ported

#### Auto switch

Nil	Without auto switch
IVII	(Built-in magnet)
м	Without M9 type auto switch
	(Built-in magnet)

- \* For applicable auto switch model, refer to the table below.
- The operating range and hysteresis of the D-M9 are different from those of the other auto switches. For details, refer to page 162.

#### Number of auto switches

A Size

10

15

20 30 40

S	1 pc.*
Nil	2 pcs.**

- S: A right-hand auto switch is shipped
- \*\* Nil: A right-hand switch and a left-hand switch are shipped.

#### Applicable Auto Switches/Refer to pages 929 to 983 for further information on auto switches

Applicable size	Туре	Special function	Electrical entry	Indicator light	Wiring		Load vo	ltage		Auto switch			ad wi	ire le	ngth [	m]	Pre-wired	Appli	cable															
plics size					(Output)				mo	del	Lead wire type	0.5	1	3	5	None	connector		ad															
₽ Id		æ	Citiy	Indic			DC	AC	Perpendicular	In-line	туре	(Nil)	(M)	(L)	(Z)	(N)	CONTINUE	101	au															
					3-wire (NPN)		5 V, 12 V		M9NV	M9N		•	•	•	0	_	0	IC																
	Solid				3-wire (PNP)		J V, 12 V		M9PV	M9P	Oilproof	•	•	•	0	_	0	circuit																
١	state			Yes	2-wire		12 V		M9BV	M9B	heavy-duty	•	•	•	0	_	0	_																
15	auto	_			3-wire (NPN)		5 V, 12 V	_	S99V	S99	cord	•	_	•	0	_	0	IC																
6,	switch		Grommet		3-wire (PNP)	24 V			S9PV	S9P	Coru	•	_	•	0	_	0	circuit																
			Grommet		2-wire	•	12 4		T99V	T99		•	_	•	0	_	0	_	PLC															
ē	Reed			No				5 V, 12 V, 24 V		90	Vinyl parallel cord		_	•	•	<u> </u>		IC																
	auto	_		140	2-wire		5 V, 12 V, 100 V	5 V, 12 V, 24 V, 100 V			Oilproof heavy-duty cord		_	•	•	_	_	circuit																
	switch			,	,	Yes	2 *****			_	l _		_	97	Vinyl parallel cord		_	•	•	_		_												
	01111011			100				100 V	_	93A	Oilproof heavy-duty cord	•	_	•	•	_																		
					3-wire (NPN)		5 V, 12 V		M9NV	M9N		•	•	•	0	_	0	IC																
	Solid	_ Grommet																		3-wire (PNP)				M9PV	M9P		•	•	•	0	_	0	circuit	
8	state		Grommet	Yes	2-wire		12 V 5 V, 12 V	_	M9BV	M9B		•	•	•	0	_	0	_																
	auto		- Caroninio		3-wire (NPN)				_	S79		•	_	•	0	_	0	IC																
30,	switch				3-wire (PNP)				_	S7P	Oilproof	•	_	•	0	_	0	circuit	Relay,															
20,			_	ļ	2-wire	24 V	12 V	12 V		T79	heavy-duty	•	_	•	0	_	0	_	PLC															
			Connector							T79C	cord	•	_	•	•	•	_																	
应	Reed		Grommet	Yes			l _	100 V	_	R73		•	_	•	0	-		_																
	auto –		_	Connector		2-wire					R73C		•	_	•	•	•	- 1																
	switch		Grommet	No			48 V, 100 V	100 V		R80		•	_	•	0	-		IC circuit																
			Connector				_	24 V or loss	_	R80C			_					_																

<sup>\*</sup> Lead wire length symbols: 0.5 m.....Nil (Example) R73C 3 m..... L (Example) R73CL

\* Auto switches are shipped together, (but not assembled).

5 m..... Z (Example) R73CZ

None ..... N (Example) R73CN

\* Solid state auto switches marked with "O" are produced upon receipt of order.

## **Rotary Actuator** With Angle Adjuster/Vane Type

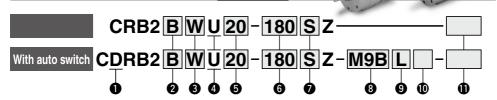


CRB2 WU Series

Size: 10, 15, 20, 30, 40

Specifications, rotation range, inner volume, and effective output are the same as those of the standard type. (→ p. 113, 114)

How to Order



#### With auto switch

(With auto switch unit and built-in magnet) \* Refer to page 159 when the auto switch unit is needed separately.

#### Mounting Symbol Mounting Basic type

\* F: Except size 40

#### Shaft type

- Symbol Shaft-end shape Single flat Round shaft \* A key is used for size 40
- \*\* .l is made to order

#### Size 10 15 20

30 40

# 6 Rotating angle

Cinala	90	90°
Single vane	180	180°
varie	270	270°
Double	90	90°
vane	100	100°

#### Refer to pages 162 to 166 for actuators with auto switches.

- . Operating range and hysteresis · How to change the auto switch detecting position
- Auto switch mounting
- Auto switch adjustment

#### Vane type

<b>9</b> .u.	• varie type					
S	Single vane					
D	Double vane					

Flange type

#### Number of auto switches

3	i pc. j
Nil	2 pcs.**
* S: A r	ight-hand auto switch

is shipped \*\* Nil: A right-hand switch and a left-hand switch are shipped.

#### 8 Auto switch

Nil	Without auto switch (Built-in magnet)
М	Without M9 type auto switch (Built-in magnet)

- \* For applicable auto switch model, refer to the table below
- \*\* The operating range and hysteresis of the D-M9 are different from those of the other auto switches. For details, refer to page 162.

#### Made to Order

For details, refer to the table below.

# 9 Electrical entry/Lead wire length

4 With angle adjuster unit

\* Refer to page 159 when the angle

adjuster unit is needed separately.

NII	Grommet/Lead wire: 0.5 m					
M	Grommet/Lead wire: 1 m					
L Grommet/Lead wire: 3 m						
CN	Connector/Without lead wire					
С	Connector/Lead wire: 0.5 m					
CL	Connector/Lead wire: 3 m					

- \* Connectors are available only for the R73, R80, T79.
- \*\* Lead wire with connector part nos. D-LC05: Lead wire 0.5 m D-LC30: Lead wire 3 m
  - D-LC50: Lead wire 5 m

#### Applicable Auto Switches/Refer to pages 929 to 983 for further information on auto switches.

-					_		_		<del> </del>																				
[	Applicable size		fundion	g	Electrical	Indicator light	Wiring		Load voltage		Auto s		Lead wire		d wi	re le	ngth	[m]	Pre-wired	Annli	cable								
1	Size	Type	温	entry	ator	(Output)		Load voltage		model		type	0.5	0.5 1 3		5	None	connector											
ŀ	Api		Special	enti y	ij	(Output)		DC	AC	Perpendicular	In-line	type	(Nil)	(M)	(L)	(Z)	(Nil)	cumecau	iodu										
ſ						3-wire (NPN)		5 V, 12 V		M9NV	M9N		•	•	•	0	_	0	IC										
ı		Solid						3-wire (PNP)				M9PV	M9P	Oilproof	•	•	•	0	_	0	circuit								
١		state			Yes	2-wire		12 V	_	M9BV	M9B	heavy-	•	•	•	0	_	0	_										
١		auto	_		163	3-wire (NPN)		5 V, 12 V	_	S99V	S99	duty	•	_	•	0	_	0	IC										
ı	0,	switch		Grommet		3-wire (PNP)	24 V			S9PV	S9P	cord	•	_	•	0	_	0	circuit										
١	7			Gioiiiiiei		2-wire	24 1	12 V		T99V	T99		•	_	•	0	_	0	_	PLC									
	For	Reed					No			5 V, 12 V	5 V, 12 V, 24 V	_	90	Vinyl parallel cord		•	•	_		IC									
ı		auto			140	2-wire		5 V, 12 V, 100 V	5 V, 12 V, 24 V, 100 V	_	90A	Oilproof heavy-duty cord	•	_	•	•	_		circuit										
		switch			Yes			_		_	97	Vinyl parallel cord	•	_	•	•	_												
Į		01111011			100				100 V	_	93A	Oliproof heavy-duty cord	•	_	•	•	_												
ı						3-wire (NPN)		5 V, 12 V		M9NV	M9N		•	•	•	0	_	0	IC										
		Solid				3-wire (PNP)				M9PV			•	•	•	0	_	0	circuit										
	용	state		Grommet		2-wire		12V		M9BV	M9B		•	•	•	0	_	0	_										
ı		auto	-	Grommet	Yes	3-wire (NPN)		5V, 12 V	_		S79	0:1	•	_	•	0	_	0	IC										
	30,	switch				3-wire (PNP)		3V, 12 V			S7P	Oilproof heavy-	•	_	•	0	_	0	circuit	Relay,									
	20,					2-wire	24 V	12 V	12 V —		T79	duty	•	_	•	0	_	0	l _	PLC									
ı				Connector —	_	T79C	cord	•	느	•	•	lacksquare			- = 0														
	For	Reed		Grommet	Yes			l _	100 V	_	R73		•	_	•	0	_		l										
1		auto	_	Connector		2-wire			_	_	R73C	] [	•	_	•	•	•	_											
ı		switch		Grommet	No			48 V, 100 V	100 V	_	R80		•	ᆫ	•	0	ᆫ		IC circuit										
П		SWILCII		Ì	Ì	Ī	Ī	Ì	Ì	Ì	Ī	Ī		Connector	140	וו וו	_	24 V or less	_	R80C			I —	•			i í	l —	

- \* Lead wire length symbols: 0.5 m ..... Nil (Example) R73C
  - 3 m ····· L (Example) R73CL 5 m .... Z (Example) R73CZ
  - None .... N (Example) R73CN
- \* Auto switches are shipped together, (but not assembled).
- \* Solid state auto switches marked with "O" are produced upon receipt of order.

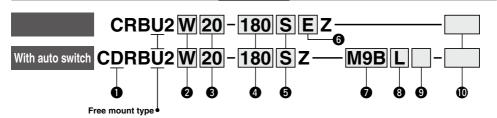
#### Made to Order Order (For details, refer to nee 1/// to 158 \

	pages 144 to 1	30.)
Symbol	Description	Applicable shaft type
XA1 to XA24	Shaft type pattern I	w
XA31 to XA58	Shaft type pattern $\mathbb{I}$	J
XC1	Add connecting ports	W, J
XC2	Change threaded hole to through-hole	W, J
хсз	Change the screw position	W, J
XC4	Change the rotation range	W, J
XC5	Change rotation range between 0 and 200°	W, J
XC6	Change rotation range between 0 and 110°	W, J
XC7	Reversed shaft	W, J
XC30	Fluorine grease	W, J
X5	For M5 port (90°/180°)	W, J

The above may not be selected when the product comes with an auto switch or angle adjuster unit. For details, refer to pages 144, 145, 150, 151, 156

# Free Mount Type Rotary Actuator Vane Type CRBU2 Series Size: 10, 15, 20, 30, 40

#### How to Order



#### With auto switch

(With auto switch unit and built-in magnet)

 Refer to page 159 when the auto switch unit is needed separately.

#### Shaft type

Combal	Shaft type	Jilait-	eriu sriape				
Symbol	Shall type	Long shaft	Short shaft				
S	Single shaft	Single flat*	_				
	Double shaft	Single flat*	Single flat				
	Double shaft	Round shaft	Single flat				
	Double shaft	Round shaft	Round shaft				
	Single shaft	Round shaft	_				
Y**	Double shaft	Single flat*	Long shaft with single flat*				
•	Double share	Olligic nat	Long smart with onlyic nat				

- \* A key is used for size 40.
- \*\* J, K, T and Y are made to order.
- \*\*\* When an auto switch is mounted to the rotary actuator, only shaft types W and J are available.

### 3 Size

#### 10 15 20 30 40

#### 4 Rotating angle

Cinala	90	90°
Single vane	180	180°
varie	270	270°
Double	90	90°
vane	100	100°

#### 8 Electrical entry/Lead wire length

INII	Grommer/Lead wire. 0.5 m							
M	Grommet/Lead wire: 1 m							
L Grommet/Lead wire: 3 m								
CN	CN Connector/Without lead wire							
С	C Connector/Lead wire: 0.5 m							
CL	Connector/Lead wire: 3 m							

- Connectors are available only for the R73, R80, T79.
  Lead wire with connector part nos.
- D-LC05: Lead wire 0.5 m D-LC30: Lead wire 3 m
  - D-LC50: Lead wire 5 m

#### Vane type

s	Single vane	l
D	Double vane	1
	Double varie	J

#### 6 Connecting port location

location										
Nil	Side ported									
Е	Axial ported									

#### Auto switch

Nil	Without auto switch (Built-in magnet)
М	Without M9 type auto switch (Built-in magnet)

\* For applicable auto switch model, refer to the table below.

#### Number of auto switches

S	1 pc.*
Nil	2 pcs.**

- \* S: A right-hand auto switch is shipped.
- \*\* Nil: A right-hand switch and a left-hand switch are shipped. \*\*\* The operating range and hysteresis of the D-M9 $\square$  are
- different from those of the other auto switches. For details, refer to page 162.

#### Made to Order

For details, refer to the next page.

#### Applicable Auto Switches/Refer to pages 929 to 983 for further information on auto switches.

ple		, de	3	Electrical	light	Wiring		Load vo	lto ao	Auto s	witch	Lead wire	Le	ad w	ire ler	ngth [	m]	Pre-wired	Applie	a a la la															
Applicable	Typ	e Goodelfinding	₽	entry	ndicator light	(Output)				mo	del	type	0.5	1	3		None	connector	Applic																
₽		Š	8	Citaly	1			DC	AC	Perpendicular	In-line	type	(Nil)	(M)	(L)	(Z)	(N)	COMMICCION	100																
						3-wire (NPN)		5 V, 12 V		M9NV	M9N		•	•	•	0	_	0	IC																
	Solid	olid				3-wire (PNP)		5 V, 12 V		M9PV	M9P	Oilproof	•	•	•	0	_	0	circuit																
١	state		-		Voc	2-wire		12 V		M9BV	M9B	heavy-duty	•	•	•	0	_	0	_																
75	auto	)		_	_		162	3-wire (NPN)		5 V, 12 V	_	S99V	S99	cord	•	• - • o -	0	IC																	
c		ch		Grommet		3-wire (PNP)	24 1/			S9PV	S9P	Coru	•	_	•	0	_	0	circuit	Relay,															
1				Grommer		2-wire	24 V	12 V		T99V	T99		•	_	•	0	_	0	I	PLC															
ğ	Reed	a																		No			5 V, 12 V	5 V, 12 V, 24 V	_	90	Vinyl parallel cord	•	_	•	•	_		IC	
	auto		_		140	2-wire		5 V, 12 V, 100 V	5 V, 12 V, 24 V, 100 V	- 90A	90A	Oilproof heavy-duty cord	•	_	•	•	_	_	circuit																
	swite		- 1		Yes					_	- 97	Vinyl parallel cord	•	-	•	•	_																		
	SWILE	CII			res			_	100 V	_	93A	Oilproof heavy-duty cord	•	_	•	•	_																		
			П			3-wire (NPN)		5 V, 12 V		M9NV	M9N		•	•	•	0	_	0	IC																
	Solid					3-wire (PNP)		5 V, 12 V		M9PV	M9P		• •		•	0	_	0	circuit																
ے ا						C		2-wire		12 V		M9BV	M9B	1	•	•	•	0	_	0	_														
8	- auto		-	Grommet	Yes	3-wire (NPN)		5 V, 12 V	_	_	S79	1 1	•	_	•	0	_	0	IC																
8	swite					3-wire (PNP)	PNP)	5 V, 12 V		- :	S7P	Oilproof	•	_	•	0	_	0	circuit	Relay,															
20		CII				2-wire	24 V	12 V		_	- T79	heavy-duty	•	_	•	0	_	0		PLC															
				Connector		2-wire		12 V		_	T79C	cord	•	_	•	•	•	_	_	PLC															
ğ	Reed		П	Grommet	Yes				100 V	_	R73		•	_	•	0	_																		
ш.			- [	Connector	168	2-wire			_	_	R73C		•	_	•	•	•		_																
	auto		- [	Grommet	No			48 V, 100 V	100 V	_	R80		•	_	•	0	_	_	IC circuit																
	SWILL	CII	- [	Connector	140			_	24 V or less	_	R80C		•	_	•	•	•																		

- \* Lead wire length symbols: 0.5 m----Nil (Example) R73C
  - 3 m····· L (Example) R73CL 5 m····· Z (Example) R73CZ

None .... N (Example) R73CN

- \* Auto switches are shipped together, (but not assembled).
- \* Solid state auto switches marked with "O" are produced upon receipt of order.

# Free Mount Type Rotary Actuator

With Angle Adjuster/Vane Type

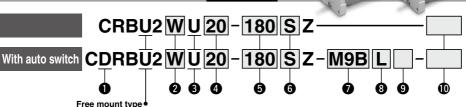


CRBU2WU Series

Size: 10, 15, 20, 30, 40

Specifications, rotation range, inner volume, and effective output are the same as those of the standard type.(→ p. 129, 130)

How to Order



#### With auto switch

(With auto switch unit and built-in magnet) \* Refer to page 159 when the auto switch unit is needed separately.

#### 2 Shaft type

Symbol	Shaft-end shape
W	Single flat*
J**	Round shaft

- \* A key is used for size 40.
- \*\* J is made to order.

#### With angle adjuster unit

\* Refer to page 159 when the angle adjuster unit is needed separately.

4 Siz	е
10	1
15	1

20

30

40

Rotating angle

	Cinala	90	90°
	Single vane	180	180°
	varie	270	270°
	Double	90	90°
	vane	100	100°

#### Vane type

S	Single vane
D	Double vane

#### Number of auto switches 1 pc.

- Nil 2 pcs.\*\* \* S: A right-hand auto switch is shipped
- \*\* Nil: A right-hand switch and a left-hand switch are shipped.

#### Auto switch

Nil	Without auto switch (Built-in magnet)
M	Without M9 type auto switch (Built-in magnet)

- \* For applicable auto switch model, refer to the table below
- \* The operating range and hysteresis of the D-M9 are different from those of the other auto switches. For details, refer to page 162.

#### Made to Order

#### Electrical entry/Lead wire length

Nil	Grommet/Lead wire: 0.5 m
M	Grommet/Lead wire: 1 m
L	Grommet/Lead wire: 3 m
CN	Connector/Without lead wire
С	Connector/Lead wire: 0.5 m
CL	Connector/Lead wire: 3 m

- \* Connectors are available only for the R73, R80, T79.
- \*\* Lead wire with connector part nos. D-LC05: Lead wire 0.5 m D-LC30: Lead wire 3 m D-LC50: Lead wire 5 m

#### Refer to pages 162 to 166 for actuators with auto switches.

- · Operating range and hysteresis · How to change the auto switch detecting position
- Auto switch mounting
- Auto switch adjustment

For details, refer to the table below.

# Order

#### Made to Order (For details, refer to pages 1/// to 158 \

_	144 (0 156.)	
Symbol	Description	Applicable shaft type
XA1 to XA24	Shaft type pattern I	w
XA31 to XA58	Shaft type pattern $\mathbb{I}$	J
XC1	Add connecting ports	W, J
XC2	Change threaded hole to through-hole	W, J
хсз	Change the screw position	W, J
XC4	Change the rotation range	W, J
XC5	Change rotation range between 0 and 200°	W, J
XC6	Change rotation range between 0 and 110°	W, J
XC7	Reversed shaft	W, J
XC30	Fluorine grease	W, J
X5	For M5 port	W, J

(90°/180°) The above may not be selected when the product comes with an auto switch or angle adjuster unit. For details, refer to pages 144, 145, 150, 151, 156

#### Applicable Auto Switches/Refer to pages 929 to 983 for further information on auto switches.

ple	S Clastrian S Wiring			I and college		Auto s	to switch		Lea	d wii	re le	Day and and							
Applicable size	Type	Special function	Electrical	Indicator	Wiring (Output)	Load voltage		model		Lead wire	0.5	1	3	5	None	Pre-wired connector			
Apr		쬻	entry	Indic	(Output)	DC		AC	Perpendicular	In-line type		(Nil)	(M)	(L)	(Z)	(Nil)	connector	load	
					3-wire (NPN)		5 V, 12 V	_	M9NV	M9N		•	•	•	0	<u> </u>	0	IC	$\Box$
	Solid				3-wire (PNP)	9			M9PV	M9P Oilproo	Oilproof	•	•	•	0	<u> </u>	0	circuit	
D.	state	_	Grommet	Yes	2-wire		12 V		M9BV	M9B	heavy-	•	•	•	0	<u> </u>	0	_	
-	auto				3-wire (NPN)		5 V, 12 V		S99V	S99	duty cord	•	_	•	0	_	0	IC	
6,	switch				3-wire (PNP)	24 V			S9PV	S9P		•	_	•	0 -	<u> </u>	0	circuit	
					2-wire	1	12 V		T99V	T99		•	느	•	0	_	0	_	PLC
For	Reed auto			No				5 V, 12 V, 24 V		90	Vinyl parallel cord	•	_	•	•	_	ļ	IC	
		_			2-wire		5 V, 12 V, 100 V	5V,12V,24V,100V		90A	Oilproof heavy-duty cord	•	_	•	• -	<u>  — </u>		circuit	
	switch			Yes			_				Vinyl parallel cord	•	느	•	•	_			
								100 V		93A	Oliproof heavy-duty cord	•	_	•	•	_			
	Solid state		Grommet		3-wire (NPN)		5 V, 12 V	'	M9NV	M9N		•	•	•	0	_	0	IC	
				Yes	3-wire (PNP)				M9PV	M9P M9B		•	•	•	0	_	0	circuit	
5					2-wire		12 V	ļ	M9BV		ļ L	•	•	•	0	_	0	_	
		-			3-wire (NPN)		5 V, 12 V	_	_	_	S79	Oilproof	•	_	•	0	_	0	IC
30,	switch	h			3-wire (PNP)					T79 heavy-		• -	-	•	0	-	0	circuit	Relay,
8,					2-wire		12 V				•	느	•	0	-	0	_	PLC	
2			Connector						T79C	cord	•	_	•	•	•	_	1		
应	Reed		Grommet	Yes			_	100 V		R73		•	-	•	0	느		_	
_	auto		Connector	ļ.,					R73C		•	_	•	•	•			4	
	switch		Grommet	No		48 V, 100 V		_	R80		•	_	•	0	느		IC circuit	t	
			Connector	"			_	24 V or less	_	R80C		•	<b>—</b>	•		•		_	

- \* Lead wire length symbols: 0.5 m ..... Nil (Example) R73C
  - 3 m ····· L (Example) R73CL
  - 5 m .... Z (Example) R73CZ None ..... N (Example) R73CN
- \* Auto switches are shipped together, (but not assembled).
- \* Solid state auto switches marked with "O" are produced upon receipt of order.