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Advanced Automation Company
International Business Division

No. 07-A-0132E

Date: November 9, 2007
To: Those listed
Issued by: T. Kurasawa, General Manager

Subject: **SDC20/21, SDC30/31** Partial Obsoletion

Purpose: To announce the partial obsoletion of the **SDC20/21** and **SDC30/31**

Background: The **SDC20/21** and **SDC30/31** have been used by many customers since their release in 1991. Sixteen years have passed, and some major components have already been discontinued by suppliers, making continued production difficult. Also, the successor models, the **SDC25/26** and **SDC35/36**, have taken over most of their sales. For this reason, as a first step, the obsoletion will apply to models that can easily be replaced with the **SDC25/26** or **SDC35/36**.

Required actions:

- Notification to users

  Request users to replace the **SDC20/21**, **SDC30/31** with the **SDC25/26**, **SDC35/36** before the obsoletion in September 2008. Panel cutout dimensions and most of the functions are compatible, excluding the communications function and the specifications mentioned on the enclosed attachments. When replacing, be careful not to give competitors opportunities to get involved, and avoid the trap of price competition.

- Handling of models with communications function

  Although the **SDC20/21**, **SDC30/31** and the **SDC25/26**, **SDC35/36** use the same communications protocol, different addresses are assigned. Replacement requires a change of the host program. We will continue to supply the **SDC20/21** and **SDC30/31**'s communications models for a while. Nevertheless replacement should be continuously encouraged.

Obsoletion date:

September 30, 2008

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Obsoleted models:

C20**00**	**C21****00**	**C30****001**	**C31****001**
C20**01**	**C21****01**	**C30****002**	**C31****003**
C20**06**	**C21****02**	**C30****003**	**C31****005**
C20**07**	**C21****06**	**C30****004**	
C20**08**		**C30****402**	
		C30**406**	
		C30**407**	
		C30**502**	
		C30**506**	
		C30**507**	

Repair service period:

Generally, 7 years from obsoletion

- This period depends on the stock of parts.

Precautions for replacement:

Be sure to refer to the enclosed attachments when arranging a replacement model.

The next step of the obsoletion:

Models still in production will be discontinued in several years. (Details are not yet decided.) Encourage replacement of these models also.

C25/26, C35/36 improvement:

We will continue to make the **C25/26** and **C35/36** even better, responding to ideas from distributors and users.

Attachment 1. Precautions for Replacement of **C20/21** with **C25/26**

	C20/21	**C25/26**	Remarks
Input sampling cycle	500 ms	300 ms	
Terminal screw	M3.5	M3	
With frame ground terminal	Yes	No	No need to connect the existing FG wiring to the **C25/35**.
Control output relay	5 A, 100000 operations	3 A, 50000 operations	
Event output	5 A, 100000 operations 3 A, 100000 operations after the date code 0616 (reference: 5 A, 70000 operations	2 A, 100000 operations	
Voltage pulse output	Open voltage: 22.5 Vdc ± 15 % Internal resistance: 1100 Ω ± 10 %	Open voltage: 19 Vdc ± 15 % Internal resistance: 82 Ω ± 0.5 %	See Attachment 3 for the number of connectable SSRs.
Event outputs (independent)	3	2 (does not apply to DC models)	
RS-485 communications	5-wire	3-wire	Communications line should be 3-wire if there is one or more **C15/25/35** connected. For 5-wire models such as the **C20/30**, connect SDA and RDA terminals, and SDB and RDB terminals respectively.
Communications address	Communications addresses are different. Change the host program when doing the replacement.		
Maximum transmission speed	9600 bps	38400 bps	Set to the lowest common transmission speed for connecting different devices.
RS-485 terminating resistor	Required	Prohibited	Do not connect terminating resistors if there is one or more **C15/25/35** connected to the communications line.
RS-232C	Available	N/A	Use the **CMC10L** RS-232C/RS-485 converter.
RT50	Supported	Not supported	Set the PV bias to compensate for constant bias in PV.
Allowable DC power outage	20 ms	0 ms	
PV range scaling for T/C, RTD	Available	N/A	Convert the proportional band setting if the same PV range is not available.
Auto tuning	1 type	3 types	**The C25/26**'s AT type "0" is the closest to the **C20/21**'s AT.
Access to internal components	Yes	Yes	The Super DigitroniK is tightly assembled, and opening it requires a tool such as flat-blade screwdriver.

Attachment 2. Precautions for Replacement of **C30/31** with **C35/36**

	C30/31	**C35/36**	Remarks
Input sampling cycle	200 ms	100 ms	
Terminal screw	M3.5	M3	
With frame ground terminal	Yes	No	No need to connect the existing FG wiring to the **C25/35**.
Control output relay	5 A, 100000 operations	3 A, 50000 operations	
Voltage pulse output	Open voltage: 22.5 Vdc ± 15 % Internal resistance: 1100 Ω ± 10	Open voltage: 19 Vdc ± 15 % Internal resistance: 82 Ω ± 0.5 %	See Attachment 3 for the number of connectable SSRs.
Event output	5 A, 100000 operations 3 A, 100000 operations after the date code 0616 (reference: 5 A, 70000 operations	2 A, 100000 operations	
Digital inputs (RSW)	1 or 4	2 or 4	The **C36** cannot replace the **C31**'s option **505**, 4 digital inputs + RSP. There are only 2 digital inputs if the RSP option is selected for the **C36**. Recommend replacement with the **C46**.
Event outputs (independent) for DC models	2	N/A	
RS-485 communications	5-wire	3-wire	Communications line should be 3-wire if there is one or more **C15/25/35** connected. For 5-wire models such as the **C20/30**, connect SDA and RDA terminals, and SDB and RDB terminals respectively.
Communications address	Communications addresses are different. Change the host program when doing the replacement.		
Maximum transmission speed	9600 bps	38400 bps	Set to the lowest common transmission speed for connecting different devices.
RS-485 terminating resistor	Required	Prohibited	Do not connect terminating resistors if there is one or more **C15/25/35** connected to the communications line.
PV range scaling for T/C, RTD	Available	N/A	Convert the proportional band setting if the same PV range is not available.
RT50	Supported	Not supported	Set the PV bias to compensate for constant bias in PV.
Allowable DC power outage	20 ms	0 ms	
PV/MFB inputs isolation	Isolated	Not isolated	Do not run PV and MFB wiring together in the same conduit, and do not use 6-core cables.
MFB auto adjustment	—	Mandatory	MFB auto adjustment is mandatory after wiring.
Auto tuning	1 type	3 types	The **C35/36**'s AT type "0" is the closest to the **C30/31**'s AT.
Derivative time (D) after AT for motor drive model	In normal auto tuning D is not set to 0.	D is set to 0 by default.	In case of slow response, change the "AT integral time adjust" setting (in the extended tuning bank) from 0 to 1, and run AT again.
Overshoot suppression learning/ neural network	Available	N/A	This function is rarely used. Contact IBD for this function.
PID with 2 degrees of freedom	Available	N/A	Substitute functions are available (selecting PID group with internal logic, etc.).
Access to internal components	Yes	Yes	The Super DigitroniK is tightly assembled, and opening it requires a tool such as flat-blade screwdriver.

Attachment 3. Number of Connectable SSRs

SSR	**C20/30**	**C25/35**
PGM10N, PGM10F	1 SSR	2 SSRs (parallel connection)
1 PGM (resistor type)	Connectable (w/o external resistor)	Connectable (with 1 kΩ external resistor)
2 PGMs (resistor type)	Connectable (series connection)	Connectable (with 680 Ω external resistor)
3 PGMs (resistor type)	Not connectable	Connectable (with 330 Ω external resistor)
4 PGMs (resistor type)	Not connectable	Connectable (w/o external resistor)
G3PA (5 to 24 V model)	1 SSR	3 SSRs (parallel connection)
G3PB	1 SSR	3 SSRs (parallel connection)
G3NA-4	2 SSRs (parallel connection)	3 SSRs (parallel connection)

Attachment 4. Obsoleted **SDC20** Models

Basic No.	Control output	Power	Option	Treat-ment
C20	**	**	**	**

	Control output
	Control output
0D	Relay
6D	Voltage pulse
5G	Current

	Power
A0	100 to 240 Vac
AZ	100 to 240 Vac, for **RT50**
D0	24 Vdc
DZ	24 Vdc for **RT50**

*1. RWS is not provided for option **09**.
*2. Options with "—" are not available.
RT50 models are available for options with "R."

		Event		H.B. alarm	AUX output	Communications		Availability*2		
		EV1	EV2	HB	AUX	RS-485	RS-232C	**0D**	**6D**	**5G**
Obsoleted	**00**	—	—	—	—	—	—			
	01	○	○	—	—	—	—	R	R	R
	02	○	—	—	—	○	—			R
	03	○	—	—	—	—	○			
	04	—	—	—	○	○	—			
	05	—	—	—	○	—	○			
	06	○	○	—	○	—	—	R		R
	07	○	○	○	—	—	—		R	—
	08	○	—	○	○	—	—			—
*1	**09**	○	—	○	—	○	—	—		—
	10	○	—	○	—	—	○	—		—

01	None
D1	With test data
T1	Tropicalization
K1	Antisulfidization
Z1	Zener barrier compatibility
B1	Tropicalization + test data
L1	Antisulfidization + test data
E1	Zener barrier compatibility + test data
G1	Tropicalization + Zener barrier compatibility
F1	Antisulfidization + Zener barrier compatibility
Q1	Tropicalization + Zener barrier compatibility + test data
P1	Antisulfidization + Zener barrier compatibility + test data
Y1	With traceability certification

Attachment 5. Obsoleted **SDC21** Models

Basic No.	Control output	Power	Option	Treat-ment
C21	**	**	**	**

	Control output
0D	Relay
6D	Voltage pulse
5G	Current

	Power
A0	100 to 240 Vac
AZ	100 to 240 Vac, for **RT50**
D0	24 Vdc
DZ	24 Vdc for **RT50**

Note:
— HB is not provided for **5G** options **05, 06, 07**.
— Options with "—" are not available. **RT50** models are available for options with "R."

		Event			H.B. alarm	AUX output	Communications		Availability		
		EV1	EV2	EV3	HB	AUX	RS-485	RS-232C	**0D**	**6D**	**5G**
00		—	—	—	—	—	—	—			
01		○	○	—	—	—	—	—	R	R	R
02		○	○	—	—	○	—	—	R		
03		○	○	—	—	○	○	—			
04		○	○	○	—	○	—	○			
05		○	○	○	○	○	○	—		R	
06		○	○	○	○	—	—	—		R	
07		○	○	○	○	—	—	○			
08		○	○	—	○	○	○	—		R	—
09		○	○	—	○	○	—	○			—

Obsoleted

01	None
D1	With test data
T1	Tropicalization
K1	Antisulfidization
Z1	Zener barrier compatibility
B1	Tropicalization + test data
L1	Antisulfidization + test data
E1	Zener barrier compatibility + test data
G1	Tropicalization + Zener barrier compatibility
F1	Antisulfidization + Zener barrier compatibility
Q1	Tropicalization + Zener barrier compatibility + test data
P1	Antisulfidization + Zener barrier compatibility + test data
Y1	With traceability certification

Attachment 6. Obsoleted **SDC30** Models

Basic No.	Control output	Power	Option	Treat-ment
C30	**	**	**	**

				Control output
	0D			Relay
	6D			Voltage pulse
	5G			Current
	2G			Position proportional
		A0		100 to 240 Vac
		AZ		100 to 240 Vac, for **RT50**
		D0		24 Vdc
		DZ		24 Vdc for **RT50**

* Options with "—" are not available.
RT50 models are available for options with "R."

			Event		AUX output	RSP input		Digital Inputs		Comm.	Availability*			
			EV1	EV2	AUX	4-20mA	1-5V	1	4	RS-485	**0D**	**6D**	**5G**	**2G**
Obsoleted	**001**		○	○	—	—	—	—	—	—			R	R
	002		○	○	—	—	—	○	—	—	—	—	—	
	003		○	○	—	—	—	—	○	—				—
	004		○	○	○	—	—	○	—	—				—
	040		—	—	—	—	—	—	—	○	—	—	—	
	041		○	○	—	—	—	—	—	○	R	R		—
	402		○	○	—	○	—	○	—	—	R	R		—
	406		○	○	○	○	—	—	—	—			R	—
	407		○	—	—	○	—	—	—	—	—	—	—	R
	502		○	○	—	—	○	○	—	—	R	R		—
	506		○	○	○	—	○	—	—	—			R	—
	507		○	—	—	—	○	—	—	—	—	—	—	R

01	None
D1	With test data
T1	Tropicalization
K1	Antisulfidization
Z1	Zener barrier compatibility
B1	Tropicalization + test data
L1	Antisulfidization + test data
E1	Zener barrier compatibility + test data
G1	Tropicalization + Zener barrier compatibility
F1	Antisulfidization + Zener barrier compatibility
Q1	Tropicalization + Zener barrier compatibility + test data
P1	Antisulfidization + Zener barrier compatibility + test data
Y1	With traceability certification

Attachment 7. Obsoleted **SDC31** Models

Basic No.	Control output	Power	Option	Treat-ment
C31	**	**	**	**

				Control output
	0D			Relay
	6D			Voltage pulse
	5G			Current
	2G			Position proportional
		A0		100 to 240 Vac
		AZ		100 to 240 Vac, for **RT50**
		D0		24 Vdc
		DZ		24 Vdc for **RT50**

* Options with "—" are not available.
RT50 models are available for options with "R."

		Event		AUX output	RSP input		Digital Inputs		Comm.	Availability*			
		EV1	EV2	AUX	4-20mA	1-5V	1	4	RS-485	**0D**	**6D**	**5G**	**2G**
001		○	○	—	—	—	—	—	—			R	R
003		○	○	—	—	—	—	○	—			R	R
005		○	○	○	—	—	—	○	—			R	R
045		○	○	○	—	—	—	○	○	R	R		
405		○	○	○	○	—	—	○	—		—	R	R
446		○	○	○	○	—	—	—	○		—	R	R
505		○	○	○	—	○	—	○	—		—	R	R
546		○	○	○	—	○	—	—	○		—	R	R

Obsoleted

01	None
D1	With test data
T1	Tropicalization
K1	Antisulfidization
Z1	Zener barrier compatibility
B1	Tropicalization + test data
L1	Antisulfidization + test data
E1	Zener barrier compatibility + test data
G1	Tropicalization + Zener barrier compatibility
F1	Antisulfidization + Zener barrier compatibility
Q1	Tropicalization + Zener barrier compatibility + test data
P1	Antisulfidization + Zener barrier compatibility + test data
Y1	With traceability certification