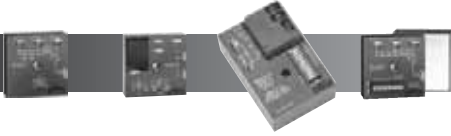

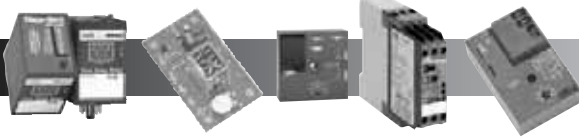

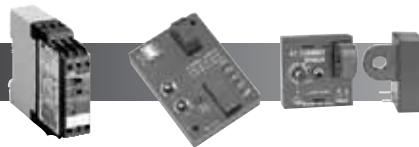
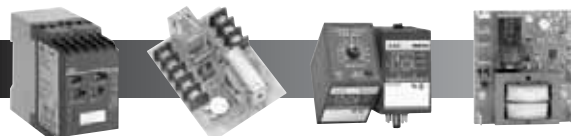
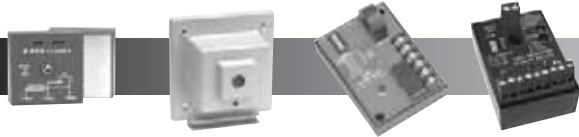



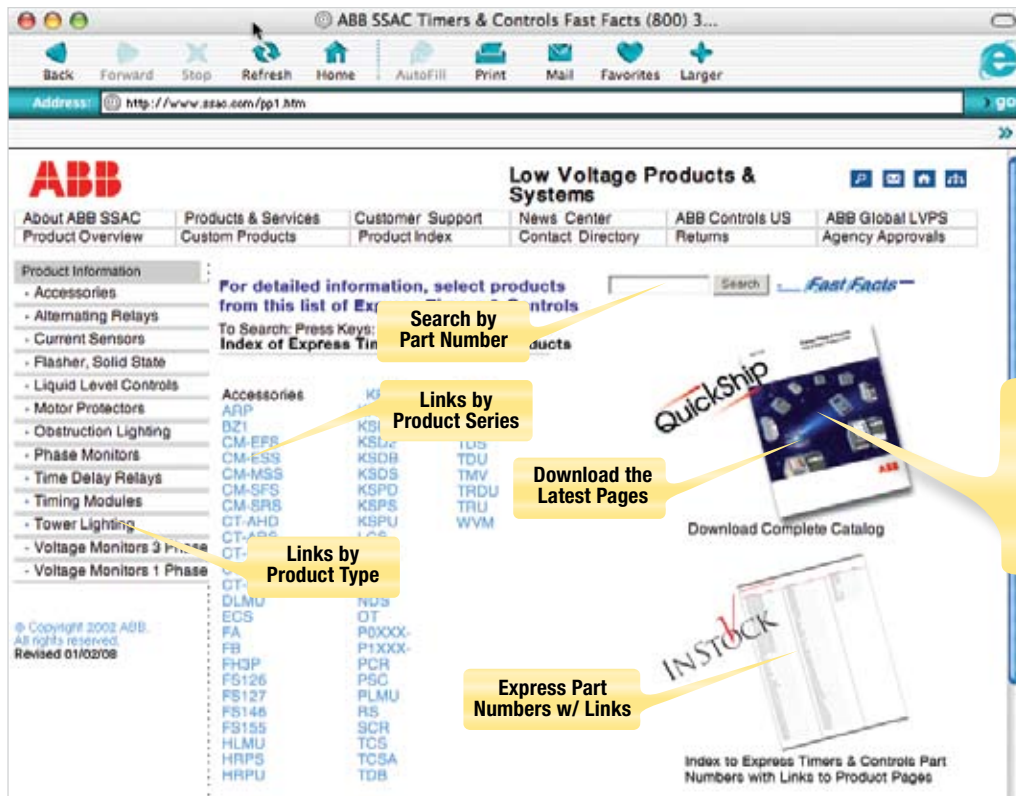
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All Part Numbers are **IN STOCK**
unless marked QS (**QuickShip**)

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The Express Timers & Controls Catalog includes an overview of the product information, operation and specifications. Complete product details are available in the full line catalog pages. The Express Timers & Controls home page provides a fast and direct path to find the details on the products in this catalog.

**Over 10 Million
Timers Available
in 2 Days or Less**

Terms of Sale

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Accurate General Purpose Timers

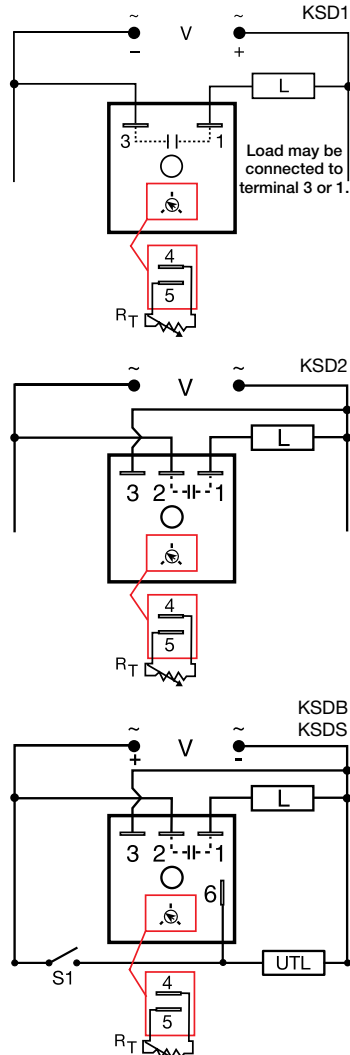
KSD1, KSD2, KSDB, KSDS Series

Solid State Output Timing Modules



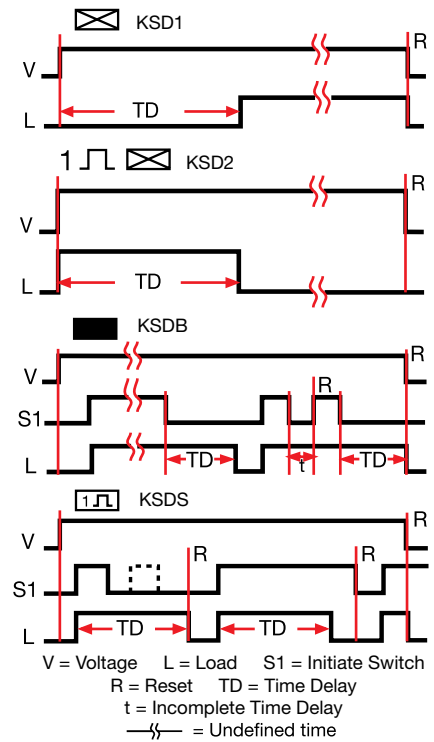
- Adjustable Delays from 0.1 s ... 10 min in 3 Ranges
- +/-0.5% Repeat Accuracy
- +/-5% Factory Calibration
- 1 A Solid State Output
- Encapsulated

Connection



These timing modules are designed for general purpose commercial and industrial applications where a small, cost effective, reliable solid state timer is required. The output is rated 1 A steady and 10 A inrush typically provides 100 million operations. The modules are totally solid state and encapsulated to protect the electronic circuitry.

Function



A knob is supplied for adjustable units, or RT terminals for 4 & 5 for external adjustment. Select a 100K ohm potentiometer for full time range adjustment. The untimed load UTL is optional. Dashed lines are internal connections.

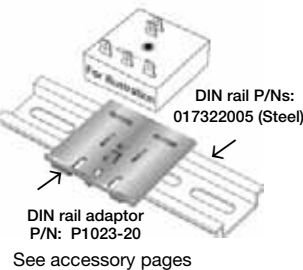
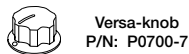
Technical Data

Output		1 A steady state, 10 A inrush at 60°C
Maximum Load Current	Minimum Holding Current	(KSD1 only) ≤ 40 mA
OFF State Leakage Current	(KSD1 only) ≅ 7 mA at 230 V AC (all others) ≅ 5 mA at 230 V AC	
Mechanical		Surface mount with one #10 (M5 x 0.8) screw 2 x 2 x 1.21 in. (50.8 x 50.8 x 30.7 mm) 0.25 in. (6.35 mm) male quick connect terminals
Mounting Package Termination		

Ordering Table

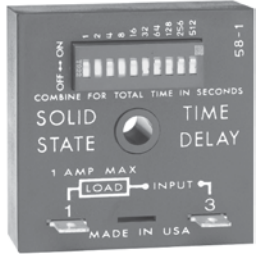
Part Number	Time Delay	Adjustment	Function	Voltage	Accuracy
KSD1420	0.1...10 S	External	Delay on Make (ON delay)	120 V AC	0.5% or 20mS
KSD1421	1...100 S				0.5%
KSD1423	0.1...10 M				0.5% or 20mS
KSD1430	0.1...10 S	Onboard Adjust	Interval (Single pulse)		0.5%
KSD1431	1...100 S				0.5% or 20mS
KSD1433	0.1...10 M				0.5%
KSD2420	0.1...10 S	External	Delay on Break (OFF delay)		0.5% or 20mS
KSD2421	1...100 S				0.5%
KSD2423	0.1...10 M				0.5% or 20mS
KSD2430	0.1...10 S	Onboard Adjust	Single Shot (One shot)		0.5%
KSD2431	1...100 S				0.5% or 20mS
KSD2433	0.1...10 M				0.5%
KSDB420	0.1...10 S	External	Single Shot (One shot)		0.5% or 20mS
KSDB421	1...100 S				0.5%
KSDB423	0.1...10 M				0.5% or 20mS
KSDB430	0.1...10 S	Onboard Adjust	Single Shot (One shot)	0.5%	
KSDB431	1...100 S			0.5% or 20mS	
KSDB433	0.1...10 M			0.5%	
KSDS420	0.1...10 S	External	Single Shot (One shot)	0.5% or 20mS	
KSDS421	1...100 S			0.5%	
KSDS423	0.1...10 M			0.5% or 20mS	
KSDS430	0.1...10 S	Onboard Adjust	Single Shot (One shot)	0.5% or 20mS	
KSDS431	1...100 S			0.5%	
KSDS433	0.1...10 M			0.5%	

Accessories



Delay On Make TDU / TMV Series Universal Voltage Solid State Timing Modules

3



- 2 Universal Voltage Ranges From 24 ... 240 V AC/DC
- Switch Selectable Delays From 0.1 s ... 2.8 h in 3 Ranges or Factory Fixed
- +/-0.5% Repeat Accuracy
- 1 A Steady - 10 A Inrush
- Totally Solid State and Encapsulated

TDU Series - Switch Adjustable, Universal Voltage Timers

Digi-Set Binary Switch Operation		
0.1 ... 102.3	1 ... 1023	10 ... 10,230
OFF ▶ ON	OFF ▶ ON	OFF ▶ ON
0.1	1	10
0.2	2	20
0.4	4	40
0.8	8	80
1.6	16	160
3.2	32	320
6.4	64	640
12.8	128	1280
25.6	256	2560
51.2	512	5120
6.3 S	544 S	3000 S

The TDU is an encapsulated solid state delay on make timer that combines digital timing circuitry with universal voltage operation. It offers DIP switch adjustment allowing accurate selection of the time delay over the full time delay range. Encapsulation protects against humidity, vibration, and dust making it suitable for outdoor equipment installations. This series is an excellent choice for OEM equipment where fast, positive adjustment, low cost and long life are important.

Ordering Table

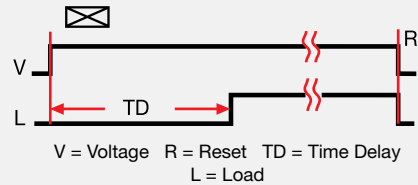
Part Number	Input Voltage	Time Range (seconds)	Repeat Accuracy	Tolerance
TDUL3000A	24 ... 120 AC/DC	0.1 ... 102.3	+/-0.5% or 20 ms whichever is greater	+/-10%
TDUL3001A	100 ... 240 AC/DC	0.1 ... 102.3		
TDU3000A	24 ... 120 AC/DC	1 ... 1023		
TDU3001A	100 ... 240 AC/DC	1 ... 1023		
TDUH3000A	24 ... 120 AC/DC	10 ... 10230		
TDUH3001A	100 ... 240 AC/DC	10 ... 10230		

Specifications for TDU and TMV

Operation - TDU / TMV

Upon application of input voltage, the time delay begins. At the end of the time delay, the output energizes and remains energized until input voltage is removed.

Function - TDU / TMV

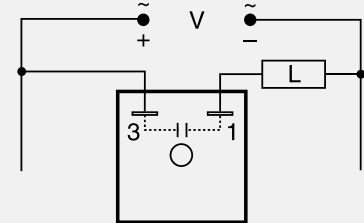


Technical Data - TDU / TMV

Output	
Type	Solid state
Form	Normally Open, open during timing
Life Span	100 million operations typical
Maximum Load Current	1 A steady state, 10 A inrush at 60°C
Minimum Holding Current	40 mA

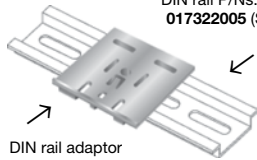
Mechanical	
Mounting	Surface mount with one #10 (M5 x 0.8) screw
Package	2 x 2 x 1.21 in. (50.8 x 50.8 x 30.7 mm)
Protection	Encapsulated Circuitry
Termination	0.25 in. (6.35 mm) male quick connect terminals

Connection - TDU / TMV



Dashed lines are internal connections. Load may be connected to terminal 3 or 1.

DIN rail P/Ns:
017322005 (Steel)



DIN rail adaptor
P/N: P1023-20

See accessory pages



- Operates From 24 ... 240 V AC/DC
- Knob or External Adjust Time Delays
- Delays from 0.1 ... 8 m
- Totally Solid State - Encapsulated
- 1 A Steady - 10 A Inrush
- Two Terminal Series Connection with Load

TMV Series - Knob Adjustable, Universal Voltage Timers




The TMV series is a knob adjustable, universal voltage delay on make timer. Encapsulation protects against humidity, vibration, and dust making it suitable for outdoor equipment installations. Because of the large number of applications, it is our most popular 1 amp solid state timing module. Designed to connect in series with a relay coil, contactor coil, solenoid, lamps, small motor, etc., to delay their energization, prevent short cycling or to sequence on various loads.

Universal timing module - One part number can be used for all the popular voltages and time delays.

Ordering Table

Part Number	Input Voltage	Time Range (minutes)	Adjustment	Repeat Accuracy	Tolerance
TMV8000	24 ... 240 V AC/DC	0.1 ... 8 M	Knob	+/- 2%	≤ +/- 10%



CE

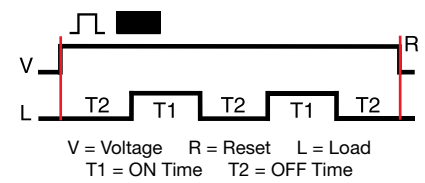
UL **SF** **10 YEAR WARRANTY**

- Fixed Flash Rate at 75 Flashes Per Minute
- 1 or 2 A Output
- 24 or 120 V AC are Available
- Small Size: 1.5 x 0.94 in. (38 x 23.9 mm)

FS100 Series - Fixed Flash Rate - Low Cost

The FS100 Series may be used to control inductive, incandescent or resistive loads. This series offers a 1 A (fullwave) or a 2 A (halfwave) steady state, 10 A inrush solid state output. These totally solid state flashers are encapsulated to protect against, humidity, vibration and dust and they typically deliver 100 million flashes. Ideal for OEM applications where low cost and long life are important.

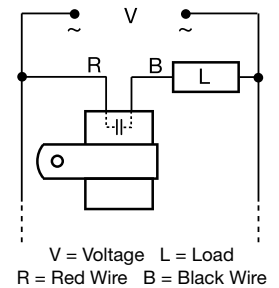
Function



Technical Data

Mechanical	
Mounting	Removable mounting bracket, use one #8 (M4 x 0.7) screw
Connection/Wires	18 AWG (0.82mm ²) wires 6 in. (15.2cm)
Package	1.5 x 0.94 in. (38.1 x 23.9 mm)

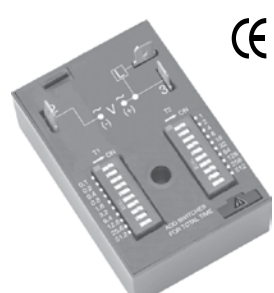
Connection



Ordering Table

Part Number	Input	Output Rating Steady / Inrush	Output Type	Load Type *
FS126	120 V AC	1 A / 10 A	AC, Fullwave	A
FS126RC				B
FS127	24 V AC	2 A / 10 A	AC, Halfwave	A
FS146				1 A / 10 A

* Load Type: A - Incandescent & Resistive B - Incandescent, Resistive & Inductive

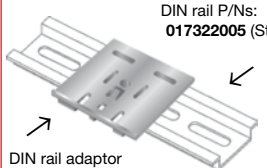


CE

UL **SF** **10 YEAR WARRANTY**

- Accurate, Reliable, Life Cycle Timer; 100 Million Cycles Typical
- Switch Settable Time Delays - Both Times Adjustable
- +/-0.1% Repeat Accuracy
- +/-2% Setting Accuracy
- 0.1 s ... 1023 h in 4 Ranges
- 12 ... 230 V in 5 ranges
- 1 A Solid State Output
- Totally Solid State and Encapsulated

Mounting Accessory



DIN rail P/Ns: 017322005 (Steel)

DIN rail adaptor P/N: P1023-20

See accessory pages

RS Series - Solid State Recycling Timer - Switch Adjustable

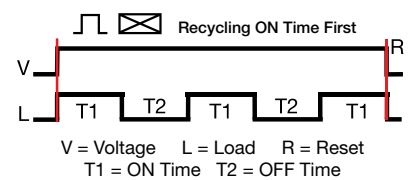
Adjustment Switch Operation

TIME DELAY	
0.1...102.3	1...1023
OFF ▶ ON	OFF ▶ ON
0.1	1
0.2	2
0.4	4
0.8	8
1.6	16
3.2	32
6.4	64
12.8	128
25.6	256
51.2	512
6.3	544

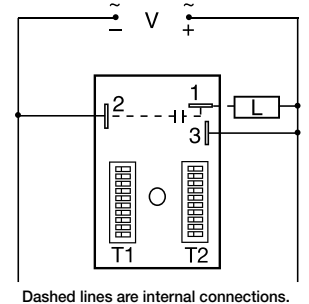
The RS Series is a solid state, encapsulated, recycling timer designed for tough industrial environments. It is used by many testing labs as a life cycle tester; by others as a cycle controller. The RS Series has separate DIP switch adjustments for the ON delay and the OFF delay. These make possible accurate adjustment the first time and every time.

Add the value of switches in the ON position for the total time delay.

Function



Connection



Technical Data

Output	
Maximum Load Current	1 A steady state, 10 A inrush at 60°C
Mechanical	
Mounting	Surface mount with one #10 (M5 x 0.8) screw
Package	3 x 2 x 1.5 in (76.7 x 51.3 x 38.1 mm)
Termination	0.25 in. (6.35 mm) male quick connect terminals

Ordering Table

RS Series	X Input	X Operating Sequence	X T1 ON Time	X T2 OFF Time
-1	-12 V DC	-A - ON Time First	-1 - 0.1 ... 102.3 s in 0.1 s increments	-1 - 0.1 ... 102.3 s in 0.1 s increments
-2	-24 V AC	-B - OFF Time First	-2 - 0.1 ... 102.3 m in 0.1 m increments	-2 - 0.1 ... 102.3 m in 0.1 m increments
-3	-24 V DC		-3 - 1 ... 1023 m in 1 m increments	-3 - 1 ... 1023 m in 1 m increments
-4	-120 V AC		-4 - 1 ... 1023 h in 1 h increments	-4 - 1 ... 1023 h in 1 h increments
-6	-230 V AC			

*Note: Grayed options are available in standard lead time.

Example P/N:

RS4A23 = 120V AC operation, ON time first, T1 - ON time range 2, T2 - OFF time range 3
RS6B14 = 239V AC operation, OFF time first, T1 - ON time range 1, T2 - OFF time range 4

Express Timers & Controls

Part Number Index

ABB & SSAC Express Part Numbers

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1SVR 430 760 R0400	34	FS155-30T	37	P1023-20	39
1SVR 430 760 R0500	34	HLMUDRAAA	24	PCR10	37
1SVR 430 811 R0300	36	HRPS/HRIS	QS	PHST-38QTN	40
1SVR 430 811 R9300	36	HRPU/HRIU	QS	PLMU11	26
1SVR 430 824 R9300	28	KRPD	QS	PSC8	38
1SVR 430 830 R0300	29	KRPS	QS	PSC11	38
1SVR 430 830 R0400	29	KSD1420	21	PSCRBB	38
1SVR 430 831 R0300	29	KSD1421	21	RS	QS
1SVR 430 831 R0400	29	KSD1423	21	SCR9L	37
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1SVR 430 840 R0400	33	KSD1433	21	TCSA10	32
1SVR 430 840 R0500	33	KSD2420	21	TCSA20	32
1SVR 430 841 R0200	33	KSD2421	21	TCSA50	32
1SVR 430 841 R0300	33	KSD2423	21	TCSGAA	32
1SVR 430 841 R0400	33	KSD2430	21	TCSGAB	32
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1SVR 500 110 R0000	20	KSDB430	21	TDM12DL	14
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CM-ESS	29	KSDS433	21	TDR4A33	15
CM-MSS	36	KSPD	QS	TDS120AL	14
CM-PFS	28	KSPS	QS	TDU3000A	22
CM-SFS	34	KSPU	QS	TDU3001A	22
CM-SRS	33	LCS10T12	31	TDUH3000A	22
CT-AHD	20	LLC54AA	35	TDUH3001A	22
CT-ARS	20	LLC54BA	35	TDUL3000A	22
CT-ERD	15	LLP-24	40	TDUL3001A	22
CT-MFD	16	LPM12	31	TMV8000	22
CT-MVS	18	LPMG12	31	TRDU24A2	12
DLMUBRAAA	25	NDS-8	38	TRDU24A3	12
ECS40BC	31	NDS-11	38	TRDU120A1	12
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