Brown-out (mains restoration) Timers

- Compact 17.5mm wide
- Brown Out Timer with 3 Functions: ON Delay, Interval, Delayed Pulse
- Detects Voltage Dips and Momentary Loss of Supply & Resets the control panel
- Low Power Consumption
- 20mS Response Time & NEW adaptive fast 0.5 to 4mS versions
- · LED indications for Healthy & Unhealthy conditions
- Excellent Noise Immunity to the latest IEC standards



Ordering Information

Cat. No.	Description
17UDT0	230 VAC, Brown Out Timer (ON Delay), 1 C/O
17UDT1	230 VAC, Brown Out Timer (Interval), 1 C/O
13UDT0	110 VAC, Brown Out Timer (ON Delay), 1 C/O
13UDT1	110 VAC, Brown Out Timer (Interval), 1 C/O
NEW 1FUDT0F	110 VAC, Brown Out Timer (Normally Energized / ON Delay Mode), Fast Response (5 msec max), 1C/O
NEW 1FUDT1F	110 VAC, Brown Out Timer (Momentary / Pulse Mode), Fast Response (5 msec max), 1C/O
NEW 1FUDT2F	110 VAC, Brown Out Timer (Normally De-energized / Pulse Mode), Fast Response (5 msec max), 1C/O

TECHNICAL SP	ECIFICATIONS:	Sta	indard 20mS	reaction tir	ne		Fast 0.4-5mS reaction time)	FLECTRON		- SERTES	MICON™175
Part Numbers		17UDT0	17UDT1	13UDT0	13UDT1	1FUDT0F 1FUDT1F 1FUDT2F						
SUPPLY CHAR	ACTERISTICS:			I				1		BROWING	JUI IIME	ĸ
Supply Voltage	9	220 / 24	OV AC	110V AC		110V AC				Dat	a Sheet	
Frequency		50 Hz		60 Hz		50 Hz			12007	0 17		
Power Consum	nption (Max.)	10 VA MA	AX.	4 VA MA	Х.	4 VA MAX.				J 13 0 17		
Trip Voltage		170 V ±5	5 V	88 V ±5	V	88 V ±5 V				J 1/		
Recovery Volta	age	182 V ±5	5 V	94 V ±5	V	94 V ±5 V		1		JF 1F	UDIIF	1FUD12F
Response time	e for Voltage dip	11 to 19	ms	11 to 17	ms	0.5 to 4 ms		0.4 to 5 ms	_			
Modes Of Oper	ration	On Delay	Interval	On Delay	Interval	On Delay (normally energized relay)	Pulse (Momentary ON)	Delayed Interval (normally De-energized relay)	CE	RoHS		R.
Initiate Time		100 ms N	Max.				·					
LED	Green LED ON	POWER C	ON						1. Supply I	Monitorin	g (Under	Voltage).
Indications	Red LED ON	RELAY OI	N			Remains ON when D Interruption Starts ti delay gets completed	IP or ill the ON d		2. Low Pow 3. Four fun On Dela	ictional m y, Interva	imption. Iode optic al, Momer	ons: ntary ON &
	Red LED OFF	Unhealth	y Conditio	n (UV/Int	erruption)	Healthy Condition			Delayed	Interval		
RELAY O/P CH	ARACTERISTICS:								4. Fast Res	sponse Tir	me.	
Contact Arrang	gement	1 C/O							5. Compac	t Size.		
Contact Rating	(Resistive Load)	5A (Res.)) @ 240 V	AC/28 VD	C					10.		
Utilization Cate	egory (AC-15)	Rated Vo	ltage (Ue)	: 240VAC	/ 125 VAC	C, Rated Current (ie):	1.3 A / 2.5 A		CAUTION	101		
Contact Materi	ial	AgNi							1. Always fo	llow the i	nstruction	s stated in this
Electrical Life		1 x 10° C)perations						product I	eatlet.	chack to	angura that the
FEATURE CHAP	RACTERISTICS:				_				2. Derore in	stallation,	o with the	intended
Setting Accura	су	±10 % a	t 30 s, ±2	0 % @ 0	3 s.	± 10 % at 30 s, ± 20	%@3s.		applicatio	וטווא מעוכי. מו		Intended
Repeat Accura	су	±1%				1			- 3. Installatio	on to be d	lone by sk	illed electrician.
Delay Timing ((T)	0.3 s to 3	30 s	1		3 s to 30 s		2 sec (±1sec)	4. Automati	on & Con	trol device	s must be
Pulse / Interva	al Time	NA	Same as Delay Timing(T)	e as NA Same as NA Delay ng(T) 0.5 sec 3 s to 30 s properly installed so that they are against any risk of involuntary act						ey are protecte ry actuations.		
Mounting		Base / D	in-Rail							sive vibra	tions	provided in cas
Dimensions (\	WXHXD)	17.5 x 58.5 x 90 (in mm)						with product				
Weight (Packe	d)	75 g Approx.						protection.				
Relative Humic	dity	5 to 80% (Rh) Non-Condensing 7, The timers shall be placed in an enclosur						an enclosure				
Operating Tem	perature	-10° C to + 55° C that is minimum 200% of the size of the						e size of the				
Storage Tempe	erature	-15° C to + 60° C timer in the end use application.						tion.				
Max. Operating	g Altitude	2000 m 8. Set						8. Setting o	f all poter	ntiometers	must be done	
Dogroo & Prot	oction	Flame retardant (UL 94-V0) in the clockwise direction only.						ly.				
Pollution Door	200	<u>IP - 20 for Terminal, IP - 40 for Housing.</u>										
Type of Insulat	tion	II Re-inforced										
Operating Pos	itions											
Certifications	Pertifications CE BoHS 1LL010_071					LL010_07UK						
NOTE: Product inpovation being a continuous process, we reserve the right to alter specifications												
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ELECTRONIC TIMER - SERIES MICON™ 175 BROWNOUT TIMER

Series 175 Brownout Timers are used to initiate a control panel supply reset following a supply brownout or microinterruption. The unit is basically an undervoltage relay. The unit will respond to voltage dips of duration which may cause an electro-mechanical relay or contactor used in panels to release. Only after a healthy supply has been restored for a set time period, the output will energize allowing the Electro-mechanical relay / contactor to be reset or re-started. These products can be operated in following modes:

1) ON DELAY MODE (Normally Energized Relay Mode A): Refer Fig. 1 & 2

In this mode, when the device is powered ON, under healthy supply conditions, the output relay will energize after the set time delay T and will remain ON. If there is a dip or Interruption for specified duration, the relay will de-energize & commence timing T again when healthy supply voltage is restored.

The output will remain energized after this delay.

2) INTERVAL MODE (Normally De-Energized Relay Mode B), for slow brown out timer Refer: Fig. 1

In this mode, when the device is powered ON under healthy supply conditions, relay will energize after the set time delay T and it will remain ON for Set time T then will de-energize.

If there is a dip or Interruption for specified duration, the relay will energize after commence time T after the supply voltage is restored and remains energized for set time T then will drop out.

Relay will remain de-energized after this delay.

3) Pulse (Momentary Mode C): Refer Fig. 2

In this mode, when the device is powered ON under healthy supply conditions, the output relay will energize for a 0.5s pulse after the expiry of the 0-30s selectable time delay T. If there is a dip or interruption for specified duration, the relay will deenergize & commence timing T again, followed by the 0.5 sec pulse when healthy supply voltage is restored. Relay will remain de-energized after this delay.

4)Delayed Interval MODE(Normally De-Energized Relay Mode), for fast brown out timer : Refer Fig. 3

In this mode, when the device is powered ON under healthy supply conditions, the output relay will energize after fixed time 2 sec "recovery delay" (t1) and remain ON for the adjustable 0-30 sec time "t2" then will de-energise.

If there is a dip or interruption for the specified duration, after the supply recovers, the timing function will be repeated.

The output Relay will remain de-energized after this ON interval.

DELAY TIMING SELECTION:

Timing range can be selected by using 'Time Setting T' on front panel of the unit.

CONNECTION DIAGRAM:



TERMINAL DETAILS:

Ø 3.55.0mm	1.1 Nm(10 lb.in) Terminal Screw - M3.5
	$2 \times 0.5 2.0 \text{ mm}^2$ solid wire
AWG	1 x 24 to 14

Use Cu wire of 75°C only.

AWG	CURRENT (A)	
12	5.00	
14	3.33	
16	1.67	

Overall Product Dimensions & Mounting Details :



Installation

 Base Mounting : Pull the DIN clips halfway out. Mount the timer on plain surface by using two M4 screws in the holes provided on clips.
 DIN-Rail Mounting : The Timer should be mounted on 35 mm symmetrical DIN Rail.

Functional Diagram:

Standard 20mS reaction time 13UDT0. Mode A, On-Delay. 110Vac 13UDT1. Mode B Interval. 110Vac 17UDT0. Mode A, On-Delay 230Vac 17UDT1. Mode B, Interval, 230Vac



Fast 0.5-5mS reaction time 1FUDT0F, Mode A, On-Delay 1FUDT1F, Mode B, Momentary pulse

1FUDT2F, Mode C, Interval



>85%.-<80%



Note: When Delay Timing or Pulse/Interval Timing is in progress and specified dip or interrupt comes during this, the device will reset to initial condition as on power ON condition. This is applicable for all types.

EMI / EMC:			
Product	IEC 61812-1		
ESD	IEC 61000-4-2, Level II		
Radiated Susceptibility	IEC 61000-4-3, Level III		
Electrical Fast Transient	IEC 61000-4-4, Level IV		
Surge	IEC 61000-4-5, Level III		
Conducted Susceptibility	IEC 61000-4-6, Level III		
Voltage Dips & Interruptions (AC)	IEC 61000-4-11, All seven levels		
Conducted Emission	CISPR 14-1, Class A		
Radiated Emission	CISPR 14-1, Class A		
Safety:			
Test Voltage between I/P and O/P	IEC 61812-1		
Test Voltage between all terminals and	IEC 61812-1		
Impulse Voltage between I/P and o/p	IEC 61812-1		
Single Fault	IEC 61010-1		
Insulation Resistance	UL 508 , > 50 kΩ		
Leakage Current	UL 508 , < 3.5mA		
Environmental:			
Cold Heat	IEC 60068-2-1		
Dry Heat	IEC 60068-2-2		
Repetitive Shock	IEC 60068-2-27, 40g, 6ms		
Non-Repetitive Shock	IEC 60068-2-27, 30g, 15ms		
Vibration	IEC 60068-2-6 , 10 to 55Hz		
	1LL010 07		

Multi-function Brown-out (mains restoration) Timers

- Brown Out Timer with 3 Functions: ON Delay, Interval, Pulse
- Detects Voltage Dips and Momentary Lossof Supply & Resets the control panel
- Low Power Consumption
- Fast Response Time
- LED indications for Healthy & Unhealthy conditions
- · Excellent Noise Immunity to the latest IEC standards



Ordering Information

Cat. No.	Description
23UDT0	110 VAC, Brown Out Timer, 1 C/O
27UDT0	240 VAC, Brown Out Timer, 1 C/O

Multi-function Brown-out (mains restoration) Timers



Cat. No.	23UDT0	27UDT0						
Parameters								
Timer Description	Brown C	Brown Out Timer						
Modes	ON Delay,	Interval, Pulse						
Functional Diagram								
Supply Voltage (山)	110 VAC	240 VAC						
Supply Variation	- 40% to +10% (of中)	- 40% to +10% (of中)						
Frequency	50/60 Hz	50 Hz						
Power Consumption (Max.	6 VA	10 VA						
Timing Range	0.3s to 30s	0.3s to 30s						
Initiate Time	Max. 200 ms	Max. 200 ms						
Trip Voltage	81 V (± 6 V)	168 V (± 6 V)						
Recovery Voltage	96 V (± 4 V)	184 V (± 4 V)						
Response Voltage Interrup	ons 15 ms (Max.)							
Time Voltage Dips	30 ms (Max.)							
Setting Accuracy	+ 5% of Full scale							
Repeat Accuracy	± 1%							
Relay Output	1 C/O							
Contact Rating	5A @ 240 VAC / 28 VDC (Resistive)							
Electrical Life	1x10 ⁵							
Mechanical Life	1x10 ⁷							
AC	15 Rated Voltage (Ue): 120/240 V, Rated Current (le	e): 3.0/1.5 A						
DC DC	Rated Voltage (Ue): 24/125/250 V, Rated Current (Ie): 2.0/0.22/0.1 A							
Operating Temperature	-10°C to +55°C	-10°C to +55°C						
Storage Temperature	-10°C to +60°C							
Humidity (Non Condensing	95% (Rh)							
LED Indication	Healthy Condition: Flashing, Unhealthy Condition: Blinking							
Colo	ır Amber	Red						
Enclosure	Flame Retardant UL94-V0	Flame Retardant UL94-V0						
Dimension (W x H x D) (in	22.5 X 75 X 100.5							
Weight (unpacked)	130 g							
Mounting	Base / DIN rail							
Certification								
Degree of Protection	IP 20 for Terminals, IP 40 for Enclosure	IP 20 for Terminals, IP 40 for Enclosure						
5								
EMI / EMC Harmonic Current Emission ESD Radiated Susceptibility Electrical Fast Transients Surges Conducted Susceptibility Voltage Dips & Interruption Conducted Emission Radiated Emission	 IEC 61000-3-2 IEC 61000-4-2 IEC 61000-4-3 IEC 61000-4-4 IEC 61000-4-5 IEC 61000-4-6 (AC) IEC 61000-4-11 CISPR 14-1 CISPR 14-1 							
Environmental Cold Heat IEC 60068-2-1 Dry Heat IEC 60068-2-2 Vibration IEC 60068-2-6 Densetive Sheak IEC 60069-2-7								

Repetitive ShockIEC 60068-2-27Non-Repetitive ShockIEC 60068-2-27

Multi-function Brown-out (mains restoration) Timers

MOUNTING DIMENSION (mm)



CONNECTION DIAGRAM



13UDT0, 17UDT0, 13UDT1, 17UDT1 23UDT0, 27UDT0



TERMINAL TORQUE & TERMINAL CAPACITY

Ø 3.54.0 mm	Torque - 0.6 N.m (6 Lb.in) Terminal screw - M3
	Solid Wire - 1 X 14 mm ²
AWG	1 X 18 to 10

22LDT0, 23LDT0, 23UDT0, 27UDT0

Ø 3.55.0 mm	Torque - 1.1 N.m (10 Lb.in) Terminal screw - M3.5
	Solid Wire - 2 X 0.22.5 mm ²
AWG	1 X 24 to 10

13UDT0, 17UDT0, 13UDT1, 17UDT1