

ELECTROMECHANICAL TIME CONTROLS



IN OPTIONAL
ENCLOSURES



UL FILE:E83486

CSA FILE:LR52379

MIL 72 Series 24 Hour, 7 Day

- Synchronous drive or quartz drive with battery backup
- 21A SPDT switch
- Captive trippers with interval as low as 15 minutes
- With or without 3-way override
- Real clock face

☼ Captive Trippers are easy to set, can't be lost. ☼ Up to 48 (24 hr.) or 42 (7 day) on/off events. ☼ Authentic clock face with hour and minute hands on both 24 hr. and 7 day models. ☼ Surface, flush (panel) or DIN rail mounting. ☼ Synchronous drive for greatest accuracy and lowest cost. ☼ Quartz drive for 7 day carryover with rechargeable battery. ☼ Three-way OFF/AUTO/ON override switch provides continuous override (not reset at next timed event). ☼ UL recognized, CSA listed.

SPECIFIERS GUIDE

Furnish and install a Grasslin MIL 72____ 24 hour (7 day) time switch with 15 min. (2 hour) interval captive trippers and quartz (synchronous) drive. Input voltage shall be 120V (24V, 240V, 277V) and SPDT switch contacts shall be silver cadmium oxide rated at 21A, resistive, 2HP @ 250VAC. To set the starting time and to provide time indication, the unit shall incorporate an authentic clock face. Installation for surface, (flush, DIN rail or within indoor or outdoor enclosure) mounting. Time switch shall contain an OFF/AUTO/ON override.

For Carry-over: The time controls shall have a quartz drive with 7 day reserve carry-over from a rechargeable battery.

SPECIFICATIONS

Size: MIL 72A: 2.83" x 4.0" x 2.06"

MIL 72E: 2.83" x 2.83" x 1.36"

Power Consumption: 1VA

Switch: SPDT dry contacts, silver cadmium oxide

Switch Rating: 21A 250V Resistive

1350 Watts Tungsten

1HP @ 120V

2HP @ 240V

16FLA, 96LRA-120VAC

12FLA, 72LRA-240VAC

Minimum Switching Current: 100ma, 20V

Ambient Temperature Range:

-40°F to 180°F synchronous units

-14°F to 131°F quartz units

Wiring Connections: Screw Terminals Suitable for #10 to #24AWG

INSTALLATION

Stand Alone: With indoor or outdoor enclosure

Panel: Surface, flush, or DIN rail mounting

ORDERING DATA

Complete Model Number = MIL 72A or E followed by suffix code and voltage

Example: MIL 72A STuZ-24

Synchronous		Quartz-7 Day Carry-Over**	Input Voltage	Switch Rating 250V Res.	Minimum On/Off Time	Event On/Off Time
Without Override	With 3 Way Override	With 3 Way Override				
MIL 72A-Surface Mount MIL 72E-Flush Mount		24 HOUR TIMECONTROL				
STuZ-24	STuZH-24	QTuZH-24	24VAC	SPDT 21A	15 min.	ON 1/4 hr.
STuZ-120	STuZH-120	QTuZH-120	120VAC	SPDT 21A	15 min.	ON 1/4 hr.
STuZ-240	STuZH-240	QTuZH-240	208/240VAC	SPDT 21A	15 min.	ON 1/4 hr.
	STuZH-277*		277VAC	SPDT 21A	15 min.	ON 1/4 hr.
MIL 72A-Surface Mount MIL 72E-Flush Mount		7 DAYTIME CONTROL				
SWuZ-24	SWuZH-24	QWuZH-24	24VAC	SPDT 21A	2 hr.	ON 2 hr.
SWuZ-120	SWuZH-120	QWuZH-120	120VAC	SPDT 21A	2 hr.	ON 2 hr.
SWuZ-240	SWuZH-240	QWuZH-240	208/240VAC	SPDT 21A	2 hr.	ON 2 hr.
	SWuZH-277*		277VAC	SPDT 21A	2 hr.	ON 2 hr.

**Quartz units also operate on DC voltages down to 12VDC

ELECTRONIC TIME CONTROLS, 2 CHANNEL



File #E83486

✱24 hour or 7 day programming with resolution to the minute and accuracy to the second. ✱Large keys ease programming. ✱Unique circular programming pattern and minimal steps simplify programming. ✱Automatic Daylight Time changeover in spring and fall eliminates need to manually change the time. ✱Holiday, or "8th day" program may be scheduled a week in advance for one or more days. ✱Each channel may be programmed separately, or both together. ✱Automatically recharged NiCad battery maintains program and display for two weeks or more. ✱Manual override for each channel provides for either temporary or continuous ON or OFF state, with status displayed in large LCD.

SPECIFIERS GUIDE

Furnish and install a Grasslin Digi 42/2 electronic time switch. This two channel control shall have 24 hour and 7 day programming and also offer 21 ON and 21 OFF set-point programs and allow selection of any combination of days for different weekday schedules. The LCD shall display time of day in AM/PM or military time format and provide load status indication. Selectable automatic or manual daylight time changeover shall be provided. In automatic mode, the time switch shall automatically advance the time by 1 hour at 2AM on the first Sunday of April, and set back the time 1 hour at 2AM on the last Sunday of October. The time switch shall be programmable to the minute and also offer a manual override for ON or OFF to the next scheduled event or for permanent ON/OFF/Auto. A 8th day or "Holiday" program shall be provided which may be activated to begin on a specific day up to a week in advance, and continue from 1 to 99 days, selectable by the user. The SPDT relay outputs will be rated for 16A General Purpose, 1HP at 240V, and 16A General Purpose, 1/2HP at 120V as well as pilot duty of 720VA. Reserve shall be provided for a minimum of 14 days with a built-in rechargeable battery which need not be replaced. The time switch shall be surface or flush panel mountable with a DIN rail mounting base optional, or shall be available with a NEMA 1 indoor or NEMA 3R outdoor enclosure.

ORDERING DATA

Model Code	Timer Voltage	Mounting*	Setpoint Programs	Maximum Weekly On/Off Events	Relay Output General Purpose Rating
Digi 42/2 – 120†	120V, 50/60Hz	Flush or Surface	42	294	(2) SPDT, 16A, 250VAC
Digi 42/2 – 240†	240V, 50/60Hz	Flush or Surface	42	294	(2) SPDT, 16A, 250VAC
Digi 42/2 – 24†	24V, 50/60Hz	Flush or Surface	42	294	(2) SPDT, 16A, 250VAC

*For DIN rail mounting, order: MB-DIN Rail Mounting Base

Digi 42/2

24 Hour, 7 Day

- Two channel or double pole switching
- Automatic daylight time changeover
- 8th day HOLIDAY program
- 16A, SPDT switching

C.E.C. CERTIFIED
TITLE 24, PART 6

ON ALL MODELS MARKED
WITH "†"

SPECIFICATIONS

Output Switches: Two SPDT relays with dry contacts

Switch Capacity: 16A General Purpose, 125-250VAC

1000W Tungsten, 250V

500W Tungsten, 125V

N.O. Contact: 1HP, 240VAC; 1/2HP, 120VAC

Pilot Duty: 720VA, 120-240VAC

N.C. Contact: 3/4HP, 240VAC; 1/3HP, 120VAC

Pilot Duty: 360VA, 120-240VAC

Input Power: 4.4VA

Shortest Switching Time: 1 minute

Accuracy: Less than ±4 minutes per year deviation

Ambient Temperature: 0°F to 140°F (–18°C to 60°C)

Ambient Humidity: 0 to 95% RH, non-condensing

Selectable AM/PM or 24 hr. (military) time display

Selectable completely automatic or one key manual daylight time changeover

Manual 3-Way Override: Temporary or permanent ON or OFF; status indication in LCD display

Wiring Connections: Screw terminals #12 to #24AWG

Size: 2.83"x 2.83" square face, x 2.28" deep

UL and Canadian UL Recognized: File E83486

TIMERS & FLASHERS

10

ELECTRONIC TIME CONTROLS, 1 CHANNEL

Digi 20, Digi 42 Series

24 Hour, 7 Day

- **Automatic Daylight Time changeover with Digi 42**
- **Holiday program with Digi 42**
- **Rechargeable battery backup with 1 week or more carryover**
- **16 amp, SPDT switching**

C.E.C. CERTIFIED
TITLE 24, PART 6
ON ALL MODELS MARKED WITH "†"



Digi 42A



File #E83486



Digi 20E

⚙️ 24 hour or 7 day programming with accuracy to the second. ⚙️ Easy programming; minimal keys and programming steps. ⚙️ Unique "Circular Programming" with large keys is easier to use. ⚙️ Selectable blocks of week-days or weekends for quick programming on Digi 20, any combination of days on Digi 42. ⚙️ Holiday program on Digi 42 may be scheduled a week in advance for one or more days. ⚙️ Automatically recharged NiCad battery maintains program and display for one week or more. ⚙️ Manual override provides for either temporary or continuous ON or OFF state, with status displayed in large LCD.

SPECIFIERS GUIDE

Furnish and install a Grasslin Digi 20 (Digi 42) electronic time switch. This 1 circuit control shall have 24 hour and 7 day programming and also offer 10 (21) ON and 10 (21) OFF setpoint programs and include 4 block programs (allow selection of any combination of days) for different weekday schedules. The LCD shall display time of day in AM/PM or military time format and provide load status indication. A daylight time adjustment key shall also be provided. The time switch will be programmable to the minute and also offer a manual override for ON or OFF to the next scheduled event or for permanent ON/OFF/Automatic. (The Digi 42 shall provide a 8th day or "Holiday" program which may be activated to begin on a specific day up to a week in advance, and continue from 1 to 99 days, selectable by the user.) The SPDT relay output will be rated for 16A Resistive @ 277VAC. Reserve shall be provided for a minimum of 7 days with built-in rechargeable batteries which need not be replaced. The time switch shall be surface, DIN rail or flush mountable or shall be available with a NEMA 1 indoor or NEMA 3R outdoor enclosure.

SPECIFICATIONS

	Digi 20	Digi 42
Channels	1	1
Programs	20	42
Holiday Program	No	Yes
Reserve Carryover; min.	1 week	2 weeks
Automatic Spring/Fall Daylight Time Changeover	No	Yes

TECHNICAL DATA

Output: 1 SPDT relay with dry contacts
Switching Capacity: 16A Resistive @ 277VAC
1000W Tungsten @ 240VAC
Input Draw: 4VA
Shortest Switching Time: 1 minute
Accuracy: Less than ±4 minutes per year deviation
Ambient Temperature: 0°F to 140°F (-18°C to 60°C)
Ambient Humidity: 0 to 95% RH, non-condensing
Selectable AM/PM or 24 hr. (military) time LCD display
One Key Daylight Time Changeover (automatic on Digi 42)
Manual 3-Way Override: Temporary or permanent ON or OFF status indication in LCD display.
Wiring Connections: "A" Models: screw terminals for #10 to #24 AWG wire
"E" Models: 1/4" quick connects

ORDERING DATA

Digi 42A and E also available for 12VDC input.

Model Code	Timer Voltage	Mounting	Setpoint Programs	Maximum Weekly On/Off Events	Relay Output Resistive Rating
Digi 20A – 120	120V, 50/60Hz	Surface or DIN Rail	20	140	SPDT, 16A, 250V
Digi 20A – 240	208/240V, 50/60Hz	Surface or DIN Rail	20	140	SPDT, 16A, 250V
Digi 20A – 24	24V, 50/60Hz	Surface or DIN Rail	20	140	SPDT, 16A, 250V
Digi 20A – 277*	277V, 50/60Hz	Surface or DIN Rail	20	140	SPDT, 16A, 250V
Digi 42A – 120†	120V, 50/60Hz	Surface or DIN Rail	42	294	SPDT, 16A, 250V
Digi 42A – 240†	208/240V, 50/60Hz	Surface or DIN Rail	42	294	SPDT, 16A, 250V
Digi 42A – 24†	24V, 50/60Hz	Surface or DIN Rail	42	294	SPDT, 16A, 250V
Digi 20E – 120	120V, 50/60Hz	Flush Panel	20	140	SPDT, 16A, 250V
Digi 20E – 240	208/240V, 50/60Hz	Flush Panel	20	140	SPDT, 16A, 250V
Digi 20E – 24	24V, 50/60Hz	Flush Panel	20	140	SPDT, 16A, 250V
Digi 20E – 277*	277V, 50/60Hz	Flush Panel	20	140	SPDT, 16A, 250V
Digi 42E – 120†	120V, 50/60Hz	Flush Panel	42	294	SPDT, 16A, 250V
Digi 42E – 240†	208/240V, 50/60Hz	Flush Panel	42	294	SPDT, 16A, 250V
Digi 42E – 24†	24V, 50/60Hz	Flush Panel	42	294	SPDT, 16A, 250V

(24V models will operate on AC or DC)

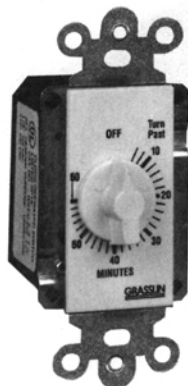
INTERVAL / COUNTDOWN TIMER

KLT Series

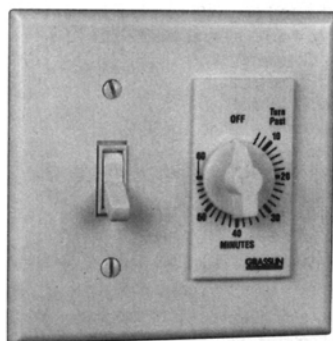
Spring Wound Interval/ Countdown Time Switch

10

T
I
M
E
R
S
&
F
L
A
S
H
E
R
S



UL
LISTED
File #E83486



SPECIFICATIONS:

SPST Switch Contact Ratings:

20A, 125VAC (Inductive), 50/60Hz
7A, 125VAC (Tungsten)
2HP, 250VAC, 50/60Hz

Wiring Connections: #12AWG leadwires

Operating Temperature: -20°F to 185°F

- Timing ranges from 5 minutes to 12 hours
- SPST 20A, 2HP switch
- Decorator style dial plate fits both standard and decorator wallplates
- Aluminum wallplate available
- Fits in single or multigang wallboxes
- May be flush panel mounted
- Normally closed version (15 & 30 min. only)

⊗ Spring operated interval/countdown timer. ⊗ Completely mechanical; does not require input power. ⊗ Wired into circuit the same as a standard wall mounted toggle switch to provide temporary timed energization of loads such as lighting, heat lamps, exhaust fans, heaters, air conditioners, pumps, and other equipment. ⊗ Automatically turns OFF the load at end of the time interval, saving energy and extending equipment life. ⊗ May be used in Energy Management Systems as override to temporarily turn loads ON that have been turned OFF by the system.

SPECIFIERS GUIDE

Furnish and install a Grasslin ____ mechanical spring wound timer which requires no electricity to operate the timing mechanism. The time switch must be capable of fitting a standard 2-1/2" deep single or multigang wallbox and a decorator wallplate or standard toggle switch wallplate. Knob and scaleplate shall be available in ivory (white) or with an aluminum wallplate and plastic knob. The device must also be capable of flush panel mounting. The SPST switch shall close when manually activated and automatically open at the end of the time interval (units with "Hold" option will remain permanently closed if the hold mode is selected). Normally closed versions shall open when manually activated and automatically close at the end of the time interval. The switch contact shall be rated 20A (inductive).

ORDERING DATA

Time Cycle	No-Hold Models with IVORY Knob & Plate	Hold Models with IVORY Knob & Plate
0-5 Minutes	KLT-5M	KLT-5MH
0-15 Minutes	KLT-15M	KLT-15MH
0-15 Minutes (Normally Closed)	KLT-15MC	—
0-30 Minutes	KLT-30M	KLT-30MH
0-30 Minutes (Normally Closed)	KLT-30MC	—
0-60 Minutes	KLT-60M	KLT-60MH
0-2 Hours	KLT-2H	KLT-2HH
0-4 Hours	KLT-4H	KLT-4HH
0-6 Hours	KLT-6H	KLT-6HH
0-12 Hours	KLT-12H	KLT-12HH
Example: KLT-30M-W Example: KLT-30MH-A		
Add "-W" to above for white knob & plate Add "-A" to above for aluminum plate & plastic knob		

GZ Series DC VOLTAGE

CE

GZ 41



- Bezel: 2.12" x 1.25" (54 x 32mm)
- Capacity: 99,999.9 hours
- Digits: 6 – 0.125 high numerals
Hours: white on black
Tenths: red on white
- Voltage: 10-80VDC
- Power Consumption:
.03W @ 12VDC
.70W @ 48VDC
- Temperature: -22° to 150°F
(-30° to 65°C)
Special Model Temp: -40° to 185°F
(-40° to 85°C)
- Vibration Resistance: 10 to 75Hz @ 1-8g's
- Termination: 1/4" spade terminals
- Protected From: reverse polarity, inductive switch
- Weight: 2oz

GZ 40A



- SAE Bezel: 2.31" dia. (59mm)
- Capacity: 99,999.9 hours
- Digits: 6 – 0.125 high numerals
Hours: white on black
Tenths: red on white
- Voltage: 4-40VDC and 10-80VDC
- Power Consumption:
.03W @ 12VDC
.70W @ 48VDC
- Temperature: -22° to 150°F
(-30° to 65°C)
Special Model Temp: -40° to 185°F
(-40° to 85°C)
- Vibration Resistance: 10 to 75Hz @ 1-8g's
- Termination: 1/4" spade terminals
- Protected From: reverse polarity, inductive switch
- Weight: 2oz

GZ 40B



- 3-Hole Bezel: 2.80" dia. (72mm)
- Totally sealed case
- Capacity: 99,999.9 hours
- Digits: 6 – 0.125 high numerals
Hours: white on black
Tenths: red on white
- Voltage: 4-40VDC and 10-80VDC
- Power Consumption:
.03W @ 12VDC
.70W @ 48VDC
- Temperature: -22° to 150°F
(-30° to 65°C)
Special Model Temp: -40° to 185°F
(-40° to 85°C)
- Vibration Resistance: 10 to 75Hz @ 1-8g's
- Termination: 1/4" spade terminals
- Protected From: reverse polarity, inductive switch
- Weight: 2oz

GZ 52



- Bezel: 2.28" round (58mm)
- Capacity: 99,999.9 hours
- Digits: 6 – 0.125 high numerals
Hours: white on black
Tenths: yellow on black
- Voltage: 10-240VDC
- Temperature: -40° to 160°F
(-40° to 72°C)
- Termination: Combination 1/4" spade and screw terminals
- Weight: 3oz

RZ Series

The Hour Meter Without Electrical Connection

The RZ hour meter records the running time of machines, vehicles, etc. which vibrate during operation.

The automatic mechanism in this meter converts vibrations into energy which drives the hour meter and minute sweep hand. It is so sensitive, it is capable of operating from the slight vibration of a moving car.

LEGEND RZ52/RZ60

- RZ52 = Model reference
- D = Rubber mounting assembly
- h = Horizontal installation
- v = Vertical installation
- RZ60 = With adapter ring for 60mm diameter cut-out

ORDERING EXAMPLE:

RZ 52h

Vibratory hour meter for horizontal installation



Bezel: 2.28" round (58mm)

UWZ Series

AC VOLTAGE

For within panels or indoor mounting—non-resetable

All models are light grey color with white numerals on black background. Tenths and hundreths numerals are yellow. An orange dial adjacent to the hundreths digit provides running indication.

UWZ 48

Surface Mount



- Bezel: 1.89" x 1.89" (48 x 48mm)
 - Capacity: 99,999.99 hours
 - Mounting: Surface
 - Digits: 7 — 0.16" high numerals
 - Voltage: 24, 120, 240, 50 or 60Hz
 - Power Consumption: 1VA
 - Temperature: -40° to 160°F (-40° to 72°C)
 - Termination: Screw Lugs
 - Weight: 2.5oz.
- Surface mounted type. The UWZ 48 unit with plug-in base where terminal protection is not necessary. The socket base is easy to install and connect. The meter is simply plugged into the base and secured by one screw.
- Ord. Info.:** UWZ 48 — voltage/freq.

UWZ 48A

Enclosed Surface Mount



- Bezel: 1.89" x 1.89" (48 x 48mm)
 - Capacity: 99,999.99 hours
 - Mounting: Surface
 - Digits: 7 — 0.16" high numerals
 - Voltage: 24, 120, 240, 50 or 60Hz
 - Power Consumption: 1VA
 - Temperature: -40° to 160°F (-40° to 72°C)
 - Termination: Screw Lugs
 - Weight: 2.5oz.
- Wall mounted type. Used in conjunction with a terminal cover for added safety, the UWZ 48A is surface mounted. Installation merely requires fixing the base to wall or panel with two screws, wiring the base, and plugging in the meter with the terminal cover.
- Ord. Info.:** UWZ 48A — voltage/freq.

UWZ 48E

Flush Mount



- Bezel: 1.89" x 1.89" (48 x 48mm)
 - Capacity: 99,999.99 hours
 - Mounting: Flush
 - Digits: 7 — 0.16" high numerals
 - Voltage: 24, 120, 240, 50 or 60Hz
 - Power Consumption: 1VA
 - Temperature: -40° to 160°F (-40° to 72°C)
 - Termination: Combination 1/4" spade and screw clamp
 - Weight: 2.1oz.
- Flush mounted with bracket. The UWZ 48E unit fits into a 1.79 x 1.79 in. (45.5 x 45.5mm) cut-out. The thickness of the panel for flush mounting can be up to 0.35 in. (9mm). The unit is secured in position by a plastic slip-on retaining bracket. Also fits square or round openings for 72mm meters with optional 72mm bezel.
- Ord. Info.:** UWZ 48E — voltage/freq.

UWZ 48V

DIN Rail Mount



- Bezel: 1.89" x 1.89" (48 x 48mm)
 - Capacity: 99,999.99 hours
 - Mounting: DIN Rail
 - Digits: 7 — 0.16" high numerals
 - Voltage: 24, 120, 240, 50 or 60Hz
 - Power Consumption: 1VA
 - Temperature: -40° to 160°F (-40° to 72°C)
 - Termination: Combination 1/4" spade and screw clamp
 - Weight: 2.5oz.
- DIN rail mounting. A special snap-on socket base enables the unit to be quickly and simply fitted on DIN rail.
- Ord. Info.:** UWZ 48V — voltage/freq.

UWZ 52E

Flush Mount



- Bezel: 2.28" round (58mm)
 - Capacity: 99,999.99 hours
 - Mounting: Flush
 - Digits: 7 — 0.16" high numerals
 - Voltage: 24, 120, 240, 50 or 60Hz
 - Power Consumption: 1VA
 - Temperature: -40° to 160°F (-40° to 72°C)
 - Termination: Combination 1/4" spade and screw clamp
 - Weight: 2.1oz.
- Flush mounted with bracket. The UWZ 52E with round face is fastened with a plastic slip-on retaining bracket. For larger cutouts up to a 60mm diameter, a slip-on 65mm ø bezel is available.
- Ord. Info.:** UWZ 52E — voltage/freq.

10

TIMERS & FLASHERS