

Time and Energy Controls for a Dynamic World!

For the past 25 years Grasslin has been on the forefront of innovation by providing top quality time and energy control devices to the North American market. Our time switches are designed to meet today's energy conservation initiatives and tomorrow's environmental demands. Grasslin products can be found around the world embedded into: Commercial Refrigeration Equipment, Lighting Control Panel, Pool and Spa Controls, Gate Operators, Residential In-Wall Timers, and many more applications.



imagination at work

Single Channel Electronic Time Controls

Digi 20 and Digi 42 Series

24 Hour and/or 7 Day

APPLICATION: Time based control of lighting, ventilating, heating, cooling or other electrical loads in commercial and industrial applications. These one channel time switches are programmable for 24-hour or 7-day schedules. The Digi 42 offers an "8th day" or holiday schedule. The Digi 20A or Digi 42A are intended for either surface or DIN rail mounting. Both models are completely enclosed in a plastic housing and includes a terminal cover and sub-base for installation and hard wiring. The Digi 20E or Digi 42E are intended for flush mounting. Both models are supplied with a clear plastic snap-on dust cover.



Digi 42A



Digi 20E

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 Saving 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



C.E.C. CERTIFIED TITLE 24,
PART 6 ON ALL DIGI 42 MODELS
File #E83486

FEATURES

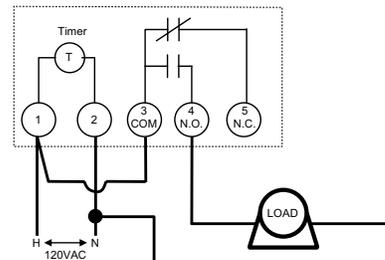
- 24 hour or 7 day programming with accuracy to the second
- Easy programming; minimal keys and programming steps
- Unique "Circular Programming" with large keys is easier to use
- Selectable blocks of weekdays or weekends for quick programming on Digi 20, any combination of days on Digi 42
- Holiday program on Digi 42 may be scheduled a week in advance for one or more days
- Rechargeable battery backup with 1-4 weeks reserve carry-over
- Manual override provides for either temporary or continuous ON or OFF state, with status displayed in large LCD
- Digi 42 models have automatic Daylight Saving Time changeover
- 24V models will operate either on AC or DC

SPECIFIERS GUIDE

Furnish and install a Grasslin Digi 20 (Digi 42) ___ electronic time switch. This 1 channel 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 Saving 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.

Digi 20 or Digi 42 Wiring Diagram

Typical Wiring Diagram (120VAC Application)



Digi 20 and Digi 42 Series 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
Digi20A - 120	120V, 50/60Hz	Surface or DIN Rail	20	140	SPDT, 16A, 250V
Digi20A - 240	208/240V, 50/60Hz	Surface or DIN Rail	20	140	SPDT, 16A, 250V
Digi20A - 24	24V, 50/60Hz	Surface or DIN Rail	20	140	SPDT, 16A, 250V
Digi20A - 277	277V, 50/60Hz	Surface or DIN Rail	20	140	SPDT, 16A, 250V
Digi42A - 120	120V, 50/60Hz	Surface or DIN Rail	42	294	SPDT, 16A, 250V
Digi42A - 240	208/240V, 50/60Hz	Surface or DIN Rail	42	294	SPDT, 16A, 250V
Digi42A - 24	24V, 50/60Hz	Surface or DIN Rail	42	294	SPDT, 16A, 250V
Digi20E - 120	120V, 50/60Hz	Flush Panel	20	140	SPDT, 16A, 250V
Digi20E - 240	208/240V, 50/60Hz	Flush Panel	20	140	SPDT, 16A, 250V
Digi20E - 24	24V, 50/60Hz	Flush Panel	20	140	SPDT, 16A, 250V
Digi20E - 277	277V, 50/60Hz	Flush Panel	20	140	SPDT, 16A, 250V
Digi42E - 120	120V, 50/60Hz	Flush Panel	42	294	SPDT, 16A, 250V
Digi42E - 240	208/240V, 50/60Hz	Flush Panel	42	294	SPDT, 16A, 250V
Digi42E - 24	24V, 50/60Hz	Flush Panel	42	294	SPDT, 16A, 250V

(24V models will operate on AC or DC)

Digi 42/2

24 Hour and/or 7 Day

APPLICATION: This unit can be used to control 240VAC two-phase loads such as pumps, compressors, etc. It can also be used to provide time based control of two circuit lighting, ventilating, heating, cooling or other electrical loads in commercial and industrial applications. The Digi 42/2 time switches are programmable for 24-hour or 7-day schedules as well as an "8th day" or holiday schedule. Each channel can operate independently or combined.



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

FEATURES

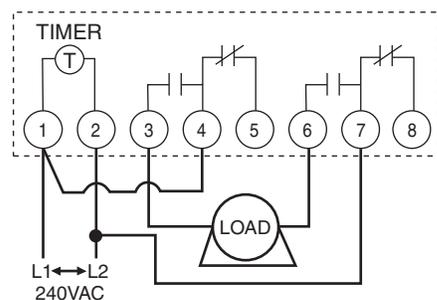
- 24 hour or 7 day programming with resolution to the minute and accuracy to the second
- Large keys ease programming
- Unique circular programming pattern and minimal steps simplify programming
- Automatic Daylight Saving Time changeover in spring and fall eliminates need to manually change the time
- 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 setpoint 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.

Digi 20 or Digi 42 Wiring Diagram

Typical Wiring Diagram (240VAC Application)



Digi 42/2 Ordering Data

Model Code	Timer Voltage	Mounting*	Setpoint Programs	Maximum Weekly On/Off Events	Relay Output General Purpose Rating
Digi42/2 - 120	120V, 50/60Hz	Flush or Surface	42	294	(2) SPDT, 16A, 250VAC
Digi42/2 - 240	240V, 50/60Hz	Flush or Surface	42	294	(2) SPDT, 16A, 250VAC
Digi42/2 - 24	24V, 50/60Hz	Flush or Surface	42	294	(2) SPDT, 16A, 250VAC

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

Advanced Electronic Time Controls 1, 2, and 4 Channels

Talento 400 & 800 Series

24 Hour, 7 Day, 365 Day Multi-Function Time Controls

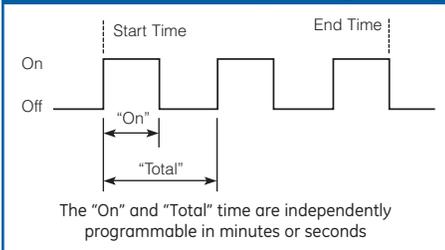
APPLICATION: The Talento series electronic time switches provide time-of-day control for lighting, heating, air conditioning, pumps, motors or general electrical circuits. The "400" series are 24-hour/7-day controls, while the "800" series units offer 365-day programming with holiday capability through the year 2095. All models offer automatic leap year and daylight savings adjustment. These features are activated when the user enters the current date and respective Daylight Saving Time change-over dates. From that point on, daylight change-over dates will never have to be entered again. A LCD indicates the load status, time-of-day, weekday and on the "800" series, the date. The units can be surface mounted, mounted to a standard DIN rail or within a Grasslin enclosure for stand-alone installations. Enclosure options include indoor or outdoor plastic (with solid or clear cover) or indoor metallic. In addition to the conventional ON/OFF programming format, these units offer pulse and cycle functions. A pulse is simply an ON or OFF event with a duration of one or more seconds. The cycle function provides for a repeating ON event within a selectable total cycle. Both the ON duration and the total cycle duration are independently programmable in minutes or seconds. In addition, the cycle function can be set to repeat indefinitely or to occur within a time and/or date range.



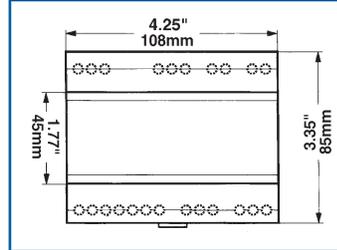
FEATURES

- 1, 2 & 4 channels programmable independently or simultaneously
- Automatic leap year and daylight saving time adjustment
- Pulse programming for school bells, sirens, or lighting contactor applications
- Cycle programming for pump or other sequencing applications
- Lithium battery backup keeps clock running
- EEPROM Non-Volatile program memory
- Astronomical function on Talento 800 series (Requires Software)

Talento 400 & 800 Series Cycle Programming



Talento 800 Dimensions



SPECIFIERS GUIDE

800 Series: The contractor shall furnish and install a Grasslin talento 894, 4 channel (892, 2 channel / 891, 1 channel) electronic time switch. Each channel shall be independently programmable. A total of 400 events shall be provided. The time switch shall offer daily, weekly or annual programming capability with up to 99 separate holiday periods of any duration and priority. Three types of switching commands shall be provided; on/off, pulse and cycle. Automatic or user selectable Daylight Saving Time change-over shall be incorporated through the year 2095. An optional Windows®-based software program shall be available for remote programming capability. It shall provide full graphic indication of the switching schedule. It shall also include a database of fixed and floating holidays. Floating holidays will automatically repeat each year on the correct date. An astronomical program shall be included which will automatically adjust the switch event schedule according to the changing sunrise and sunset times. A LCD shall be provided to indicate the current time, date, switch contact status and program schedule. A replaceable lithium battery shall be provided to maintain the current time and date in the event of a power failure for up to six (6) years; the switch program shall be stored in non-volatile (EEPROM) memory. The SPDT switch contacts shall be rated for 16A at 250VAC. Time switch supply voltage shall be 24VAC/DC or 120VAC or 240VAC. The time switch shall be capable of surface or DIN rail mounting or it can be provided in an indoor or outdoor (NEMA 1 or 3R) enclosure. It shall be UL, C-UL recognized, and UL/C-UL listed in optional enclosure.

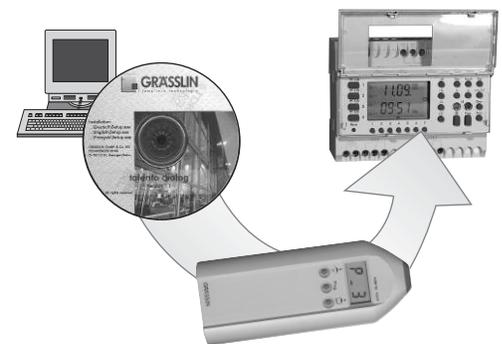
400 Series: The contractor shall furnish and install a Grasslin talento 472, 2 channel (471, 1 channel) electronic time switch. Each channel shall be independently programmable. A total of 40 (30, 471) events shall be provided. The time switch shall offer daily or weekly programming. Three types of switching commands shall be provided; on/off, pulse and cycle. Automatic or user selectable Daylight Saving Time change-over shall be incorporated through the year 2095. A LCD shall be provided to indicate the current time, day, switch contact status and program schedule. A lithium battery shall be provided to maintain the current time and date in the event of a power failure for up to three (3) years; the switch program shall be stored in non-volatile (EEPROM) memory. The SPDT switch contacts shall be rated for 16A at 250 VAC. Time switch supply voltage shall be 24VAC/DC or 120VAC, or 240VAC. The time switch shall be capable of surface or DIN rail mounting or it can be provided in an indoor or outdoor (NEMA 1 or 3R) enclosure. It shall be UL, C-UL recognized, and UL/C-UL listed in optional enclosure.

Remote PC Programming

The talento 800 series can be programmed from a PC utilizing the optional **talento dialog set**. The set includes Windows®-based software, the **taxxi** hand-held programmer, CD Rom, interconnect cable and instructions.

The software contains a schedule of **fixed** and **floating** holidays that can be selected, as required, for the particular application. **Floating** holidays will automatically repeat on the correct date, year after year. Thus, all **fixed** and **floating** holidays need only be programmed once. In addition, an **astronomical** program is included which will automatically adjust the program schedule to follow the changing sunrise and sunset times.

Once the programming is completed on the PC, it is transferred to the **taxxi** hand programmer from which programs are downloaded into one or more installed talento 800 series time controls. The **taxxi** can store up to four independent programs and can also upload a program from the talento into a PC for review or editing.



Advanced Electronic Time Controls 1, 2, and 4 Channels

SPECIFICATIONS

Talento 800 Series

Input Voltage: 24VAC/VDC, 120VAC, 50/60 Hz
 Output Rating: 16A Resistive @ 250VAC per channel
 Output Configuration: SPDT dry contacts for each channel
POWER CONSUMPTION: 5 VA
BATTERY BACKUP: 6 years, replaceable
TEMPERATURE RANGE: -13°F to 131°F (-25°C to 55°C)
DISPLAY: AM/PM or Military LCD 1" x 1-11/16"
WEIGHT: 18 oz.
MOUNTING: Surface & DIN rail (NEMA 1 indoor & NEMA 3R outdoor enclosures available)
SHORTEST SWITCHING TIME: One second

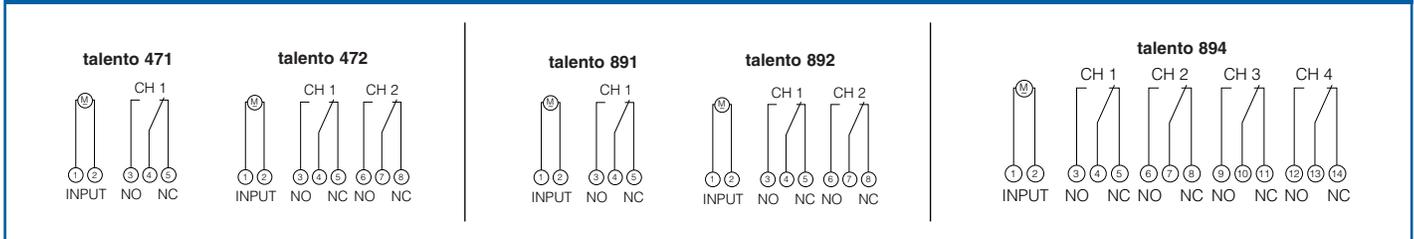
Talento 400 Series

Input Voltage: 24VAC/VDC, 120VAC, 50/60 Hz
 Output Rating: 16A Resistive @ 250VAC per channel
 Output Configuration: SPDT dry contacts for each channel
POWER CONSUMPTION: 5 VA
BATTERY BACKUP: 3 years
TEMPERATURE RANGE: -13°F to 131°F (-25°C to 55°C)
DISPLAY: AM/PM or Military LCD 5/8" x 13/16"
WEIGHT: 5.5 oz.
MOUNTING: Surface & DIN rail (NEMA 1 indoor & NEMA 3R outdoor enclosures available)
SHORTEST SWITCHING TIME: One second

Talento 400/800 Series Ordering Data

MODEL	VOLTAGE	OUTPUT	CHANNELS	PROGRAMS
Mechanism Only				
Talento 471-24	24VAC/DC, 50/60Hz	16A SPDT	1	30
Talento 471-120	120VAC, 50/60Hz	16A SPDT	1	30
Talento 891-24	24VAC/DC, 50/60Hz	16A SPDT	1	400
Talento 891-120	120VAC, 50/60Hz	16A SPDT	1	400
Talento 472-24	24VAC/DC, 50/60Hz	16A SPDT	2	30
Talento 472-120	120VAC, 50/60Hz	16A SPDT	2	30
Talento 892-24	24VAC/DC, 50/60Hz	16A SPDT	2	400
Talento 892-120	120VAC, 50/60Hz	16A SPDT	2	400
Talento 894-24	24VAC/DC, 50/60Hz	16A SPDT	4	400
Talento 894-120	120VAC, 50/60Hz	16A SPDT	4	400
NEMA 1 Indoor Enclosure				
GMX 471-I-24	24VAC/DC, 50/60Hz	16A SPDT	1	30
GMX 471-I-120	120VAC, 50/60Hz	16A SPDT	1	30
GMX 891-I-24	24VAC/DC, 50/60Hz	16A SPDT	1	400
GMX 891-I-120	120VAC, 50/60Hz	16A SPDT	1	400
GMX 472-I-24	24VAC/DC, 50/60Hz	16A SPDT	2	30
GMX 472-I-120	120VAC, 50/60Hz	16A SPDT	2	30
GMX 892-I-24	24VAC/DC, 50/60Hz	16A SPDT	2	400
GMX 892-I-120	120VAC, 50/60Hz	16A SPDT	2	400
GMX 894-I-24	24VAC/DC, 50/60Hz	16A SPDT	4	400
GMX 894-I-120	120VAC, 50/60Hz	16A SPDT	4	400

Talento 400 and 800 Terminal Connections



SRS 3800

7 Day, 8-Channel End Time Switches

APPLICATION: Time of day ON/OFF control of 8 circuits of HVAC systems, zone heating, industrial processes, alarm systems, lighting, fans, pumps or other loads in commercial, industrial, institutional, and agricultural facilities. A simple and effective energy management system for small and mid-sized office buildings, schools, banks, malls, and government buildings.

FEATURES

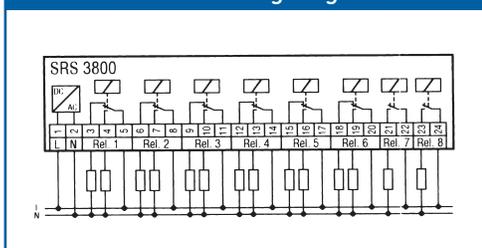
- 8 channels programmable independently or simultaneously
- 7 day programming
- 2 ON and 2 OFF settings per day
- ON-OFF-AUTO Override for each channel
- Holiday "OFF" provision
- Indoor/Outdoor enclosure w/clear door
- Battery backup for 1 month
- 10 Amp, SPDT switching



SPECIFICATIONS

INPUT VOLTAGE: 120VAC 50/60 Hz
OUTPUT RATING: 10A Resistive @ 120~240VAC per channel
OUTPUT CONFIGURATION: 6 SPDT, 2 SPST (NO)
POWER CONSUMPTION: 12VA
SHORTEST SWITCHING TIME: 1 minute
AMBIENT TEMPERATURE: 14°F to 122°F (-10°C to 50°C)
AMBIENT HUMIDITY: 0 to 95% RH, non-condensing
MANUAL 3-WAY OVERRIDE: Auto-On-Off
 "ON" or "OFF" status indicator for each channel
WIRING CONNECTIONS: Screw terminals, 12-24AWG
SIZE: 8.38 (213mm) x 7.08" (180mm) x 4.5" (114mm)

SRS 3800 Wiring Diagram



SRS 3800 Ordering Data

MODEL	VOLTAGE	OUTPUT	CHANNELS	PROGRAMS
Plastic Clear Enclosure				
SRS3800-120	120VAC, 60Hz	10A, 6-SPDT & 2-SPST	8	224

FM/1 Series

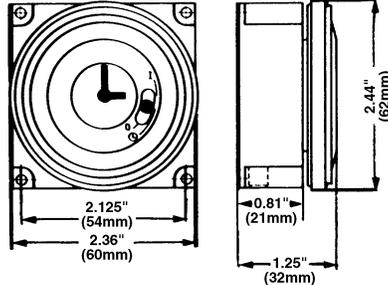
24 Hour, 7 Day

APPLICATION: The FM/1 series electromechanical timer modules are designed to be placed inside a machine control panel, circuit board, or other equipment. It offers up to 21A switching designed for control of heating, ventilating, air conditioning, refrigeration, lighting, security, circulating pumps, spas or any electrical load requiring 24-hour or 7-day scheduling.

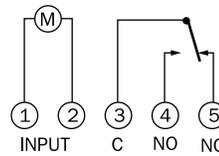


SPECIFICATIONS

SIZE: 2.36" x 2.36" x 1.25"
SUPPLY VOLTAGE: 24, 120, 240VAC
POWER CONSUMPTION: 1VA
SWITCH RATING: SPDT
 Resistive: 21A
 Tungsten: 1350W
 Inductive: 1HP @ 120VAC
 2HP @ 240VAC
WIRING CONNECTIONS: 1/4" quick-connects
INSTALLATION:
 Stand Alone: With indoor or outdoor enclosure
 Panel: Surface mounting



FM/1 Wiring Diagram



FEATURES

- 21A SPDT switch
- Captive Trippers
- 1/4" quick terminals
- Noise Immune—Ideal for robust applications

FM/1 Series Ordering Data†

	Switch Program	Carry-Over	Program On/Off Every	Minimum On/Off Time	Switch Output	
					Type	Rating
FM/1 STuZ (synchronous)	24 hr.	No	15 minutes	15 minutes	SPDT	21A Res.
FM/1 SWuZ (synchronous)	7 day	No	2 hours	2 hours	SPDT	21A Res.
FM/1 QTuZ (quartz)	24 hr.	7 day	15 minutes	15 minutes	SPDT	21A Res.
FM/1 QWuZ (quartz) 7 day	7 day	2 hours	2 hours	SPDT	21A Res.	

†For 3-way override switch: Add "H"

Available with 24V, 120V, 240V, 277VAC input

KM2 Series

24 Hour, 7 Day

APPLICATION: The KM/2 series modules are designed to fit into tight locations. It offers up to 21A switching designed for control of heating, ventilating, air conditioning, refrigeration, lighting, security, circulating pumps, spas or any electrical load requiring 24-hour or 7-day scheduling.

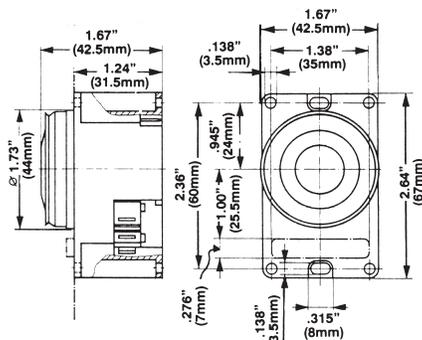
FEATURES

- Very small and compact, fits anywhere
- On/Auto/Off manual switch standard
- Captive trippers for easy programming
- 1/4" quick terminals

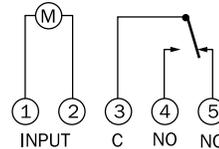


SPECIFICATIONS

SIZE: 1.67" x 2.64" x 1.67"
POWER CONSUMPTION: 1VA
SWITCH RATING: SPDT
 Resistive: 21A @ 250V
 Motor: 1HP @ 125VAC
 2HP @ 250VAC
 Inductive: 8A @ 250VAC
 Tungsten: 1350W
WIRING CONNECTIONS: 1/4" quick-connects



KM2 Wiring Diagram



KM2 Series Ordering Data

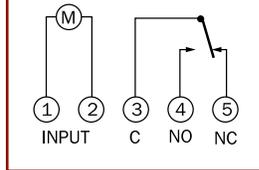
	OPERATING FEATURES			Switch Output	
	Switch Program	Program On/Off Every	Minimum On/Off Time	Type	Rating
KM2 STuH	24 hr.	20 minutes	20 minutes	SPDT	21A Res.
KM2 SWuH	7 day	2 hr. 20 minutes	2 hr. 20 minutes	SPDT	21A Res.

FM/1 digi 20 24 Hour and/or 7 Day

SPECIFICATIONS

SWITCH RATING: SPDT
 16A Resistive @ 277VAC
 1000W Tungsten @ 240VAC
INPUT DRAW: 4VA
INPUT FREQUENCY: 50/60Hz
SHORTEST SWITCHING TIME: 1 minute
AMBIENT TEMPERATURE: 0°F to 140°F (-18°C to 60°C)
AMBIENT HUMIDITY: 0 to 95% RH, non-condensing
WIRING CONNECTIONS: 1/4" quick connects
 UL and Canadian UL File E 83486

FM/1 digi 20 Wiring Diagram



FEATURES

- 20 programs, up to 140 events per week
- Easy to program with large keys
- 16 Amp @ 277V SPDT switching
- Capacitor backup with 5 day carryover
- Manual override

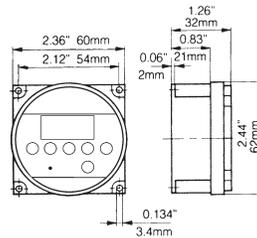
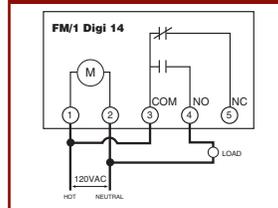


FM/1 digi 14 24 Hour and/or 7 Day

SPECIFICATIONS

WIRING CONNECTION: 1/4" Quick Terminals
SUPPLY VOLTAGE: 125VAC, 60 Hz.
SWITCH OUTPUT: SPDT (Form C Relay Contacts)
Switch Rating: 15A General Purpose/Resistive @125VAC
 1000W Tungsten @125VAC
 1/2HP @125VAC
BATTERY BACK-UP: Rechargeable Ni-MH (Holds program and keeps time for up to 60 days)
OPERATING TEMPERATURE: -10°C to + 55°C
ACCURACY: ± 1 sec/day at 20°C
NUMBER OF PROGRAMS: 7 ON, 7 OFF
BLOCK PROGRAMMING: MON-SUN, MON-FRI, SAT-SUN, MON-SAT, MON-WED-FRI
SHORTEST SWITCHING TIME: 1 Minute
DISPLAY: Backlit LCD (Illuminates in the dark)
PROTECTION: MOV and Thermal Fuse
APPROVALS: UL & cUL

FM/1 digi 14 Wiring Diagram



FEATURES

- Integrated MOV surge protection assures reliable operation
- Thermal fuse protects unit in the event of overload
- 1/4" quick terminals for easy wiring connection
- Rechargeable Ni-MH battery holds program and keeps time for up to 60 days
- Block programming reduces number of events: MON-SUN, MON-FRI, SAT-SUN, MON-SAT, MON-WED-FRI
- Backlit LCD illuminates in the dark
- 14 programs for maximum 98 weekly ON/OFF events

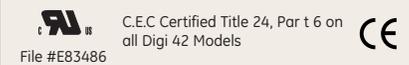
FM/1 digi 42 24 Hour and/or 7 Day

SPECIFICATIONS

SWITCH RATING: SPDT
 16A Resistive @ 277VAC
 1000W Tungsten @ 240VAC
INPUT DRAW: 4VA
INPUT FREQUENCY: 50/60Hz
SHORTEST SWITCHING TIME: 1 minute
AMBIENT TEMPERATURE: 0°F to 140°F (-18°C to 60°C)
AMBIENT HUMIDITY: 0 to 95% RH, non-condensing
WIRING CONNECTIONS: 1/4" quick connects
 UL and Canadian UL File E 83486

FEATURES

- Automatic Daylight Saving Time Changeover
- 42 programs, up to 294 events per week
- Holiday programming
- 16 Amp @ 277V SPDT switching
- Rechargeable battery backup with carryover of over 4 weeks



FM/1 Series Ordering Data - FM/1 digi 42 also available for 12VDC input, 24V models are AC/DC.

Model	Input Voltage	Switch Program	Programs	Max. Weekly On/Off Events	Holiday Program	Reserve Carryover	Relay Output
FM/1 digi 14-120	120V 50/60Hz	24 hr./7 day	14	98	No	60 days	SPDT 15A
FM/1 digi 20-120	120V 50/60Hz	24 hr./7 day	20	140	No	1 week	SPDT 16A
FM/1 digi 20-240	240V 50/60Hz	24 hr./7 day	20	140	No	1 week	SPDT 16A
FM/1 digi 20-24	24V 50/60Hz	24 hr./7 day	20	140	No	1 week	SPDT 16A
FM/1 digi 20-277	277V 50/60Hz	24 hr./7 day	20	140	No	1 week	SPDT 16A
FM/1 digi 42-120	120V 50/60Hz	24 hr./7 day	42	294	Yes	2 weeks	SPDT 16A
FM/1 digi 42-240	240V 50/60Hz	24 hr./7 day	42	294	Yes	2 weeks	SPDT 16A
FM/1 digi 42-24	24V 50/60Hz	24 hr./7 day	42	294	Yes	2 weeks	SPDT 16A

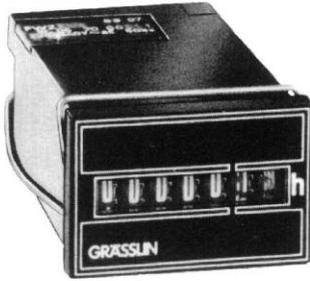
AC Hour Meter (Non-Reset Type)

FWZ Series

FWZ 36, 53, and 55 Hour Meters are rectangular flush panel mount designed to fit into tight locations. All can withstand IP54 environmental rating (requires use of gasket).

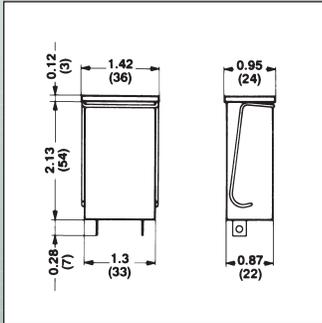


FWZ 36



- Bezel: 1.42" x 0.95" (36 x 24mm)
 - Capacity: 99,999.99 hours
 - Digits: 7
 - Voltage: 24, 120, 240, 50 or 60Hz models
 - Power Consumption: 1VA
 - Temperature: -40° to 160°F (-40° to 72°C)
 - Termination: Combination 1/4" spade and screw clamp. Rear access screw terminals available (model "K")
 - Weight: 1.2oz
 - Flush panel retainer mounted with wire spring clip retainer
 - Panel Opening: 1.36" x 0.90" rectangular (34.5 x 23mm)
- Ordering Information**
FWZ36 - voltage/freq.
*Rear access screw terminals

Dimensions in inches (mm)

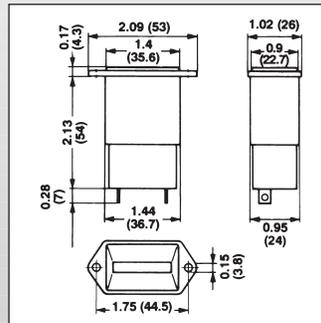


FWZ 53



- Bezel: 1.42" x 0.95" (36 x 24mm)
 - Capacity: 99,999.99 hours
 - Digits: 7
 - Voltage: 24, 120, 240, 50 or 60Hz models
 - Power Consumption: 1VA
 - Temperature: -40° to 160°F (-40° to 72°C)
 - Termination: Combination 1/4" spade and screw clamp. Rear access screw terminals available (model "K")
 - Weight: 1.2oz
 - Flush panel retainer mounted with wire spring clip retainer
 - Panel Opening: 1.36" x 0.90" rectangular (34.5 x 23mm)
- Ordering Information**
FWZ36 - voltage/freq.
*Rear access screw terminals

Dimensions in inches (mm)

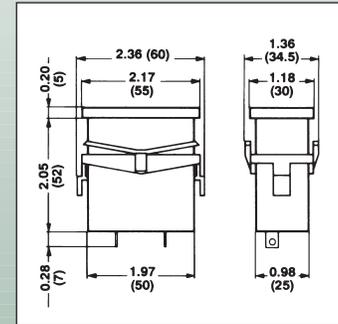


FWZ 55



- Bezel: 2.36" x 1.36" (60 x 34.5mm)
 - Capacity: 99,999.99 hours
 - Digits: 7 - 0.16" high numerals
 - Voltage: 24, 120, 240, 50 or 60Hz models
 - Power Consumption: 1VA
 - Temperature: -40° to 160°F (-40° to 72°C)
 - Termination: Combination 1/4" spade and screw clamp. Rear access screw terminals available (model "K")
 - Weight: 1.8oz
 - Flush panel retainer mounted with slip-on plastic retaining bracket
 - Panel Opening: 2.06" x 1.08" rectangular (52 x 27.5mm)
- Ordering Information**
FWZ55 - voltage/freq.
FWZ55K* - voltage/freq.
*Rear access screw terminals

Dimensions in inches (mm)



All models also available with 1/4" spade terminals *without* screw clamp.

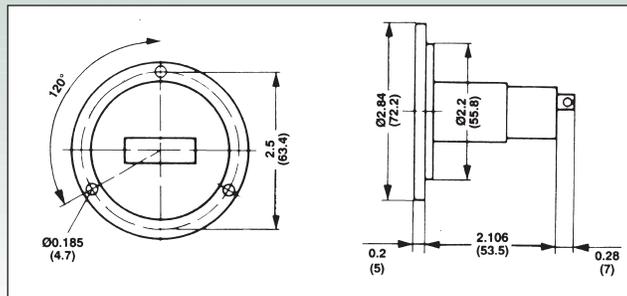
FWZ 72

Black Polycarbonate



- Bezel: 2.83" round (72mm) 3-hole
 - Capacity: 99,999.99 hours
 - Digits: 7 - 0.16" high numerals
 - Voltage: 24, 120, 240, 50 or 60Hz models
 - Power Consumption: 1VA
 - Temperature: -40° to 160°F (-40° to 72°C)
 - Termination: Combination 1/4" spade and screw clamp. Rear access screw terminals available (model "K")
 - Weight: 1.8oz
 - Flush panel mounted with (3) 0.185" holes for #8 screws
 - Panel Opening: 1.75" round (44.5mm) or 1.50" x 1.00" rectangular (38 x 25mm)
- Ordering Information**
FWZ72 - voltage/freq.
FWZ72B - voltage/freq.
FWZ72K* - voltage/freq.
*Rear access screw terminals

Dimensions in inches (mm)



FWZ 72B

Blue-Silver on Colorless Frosted Polycarbonate



AC Hour Meter (Non-Reset Type)

UWZ Series

UWZ 48

Surface Mount

The UWZ 48 Series is designed to meet IP20 environmental rating for indoor applications. All models are light grey color with white numerals on black background. Tenths and hundredths numerals are yellow. An orange dial adjacent to the hundredths digit provides running indication.



- Bezel: 1.89" x 1.89" (48 x 48mm)
- Capacity: 99,999.99 hours
- Mounting: Surface
- Digits: 7 - 0.16" high
- 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
- 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.

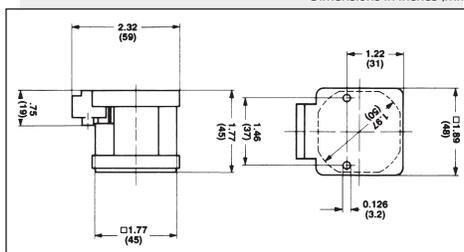
Ord. Info.: UWZ 48A - voltage/freq.



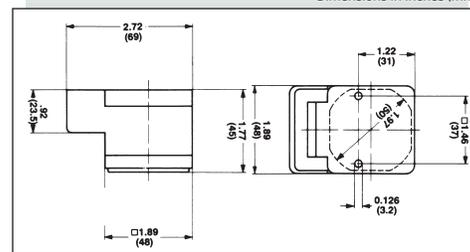
File #LR44080

File #E86119

Dimensions in inches (mm)



Dimensions in inches (mm)



UWZ 48E

Flush Mount

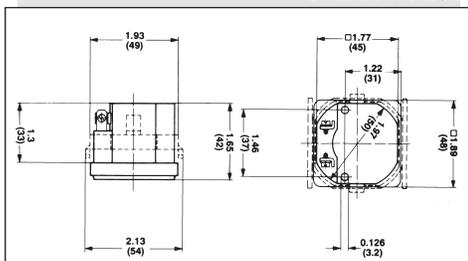


- Bezel: 1.89" x 1.89" (48 x 48mm)
- Capacity: 99,999.99 hours
- Mounting: Flush
- Digits: 7 - 0.16" high numerals
- Voltage: 24, 120, 240, 50 or 60Hz
- Power Consumption: 1VA
- Temperature: -40° to 160°F (-40° to 72°C)
- Termination: Combination 1/4" spade and screw clamp
- Weight: 2.1oz.

Flush mounted with bracket. The UWZ 48E unit fits into a 1.79 x 1.79in. (45.5 x 45.5mm) cut-out. The thickness of the panel for flush mounting can be up to 0.35in. (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.

Dimensions in inches (mm)



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)

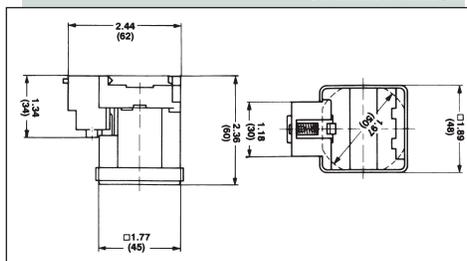
Termination: Combination 1/4" spade and screw clamp

Weight: 2.5oz.

DIN rail mounting. A special snap-on socket base enables the unit to be quickly and simply fitted on DIN rail.

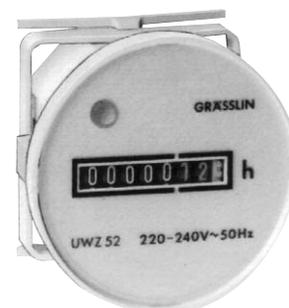
Ord. Info.: UWZ 48V - voltage/freq.

Dimensions in inches (mm)



UWZ 52E

Flush Mount

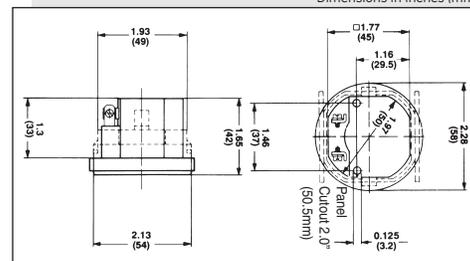


- Bezel: 2.28" round (58mm)
- Capacity: 99,999.99 hours
- Mounting: Flush
- Digits: 7 - 0.16" high numerals
- Voltage: 24, 120, 240, 50 or 60Hz
- Power Consumption: 1VA
- Temperature: -40° to 160°F (-40° to 72°C)
- Termination: Combination 1/4" spade and screw clamp
- Weight: 2.1oz.

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 ϕ bezel is available.

Ord. Info.: UWZ 52E - voltage/freq.

Dimensions in inches (mm)



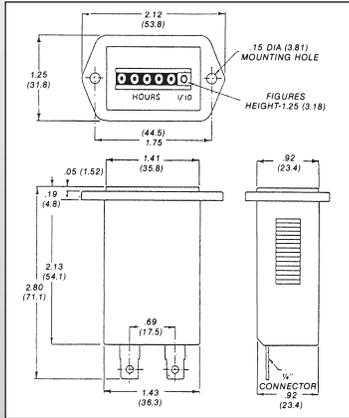
DC Hour Meter (Non-Reset Type)

GZ Series 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

Dimensions in inches (mm)

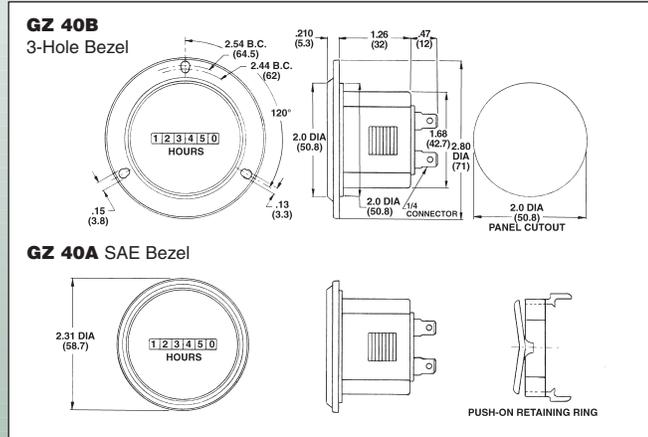


GZ 40A



- 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

Dimensions in inches (mm)



GZ 40B

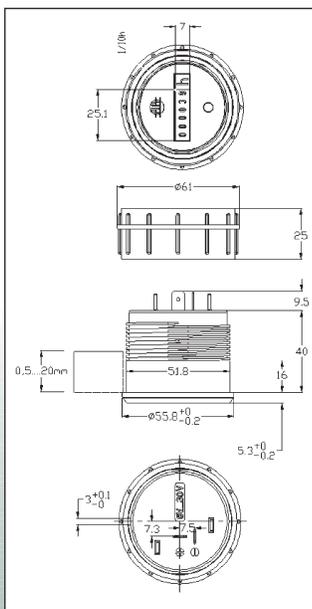


- 3-Hole Bezel: 2.80" dia. (72mm)
- Totally sealed case
- Capacity: 99.999.9 hours
- Digits: 6 - 0.125 high numerals
Hours: white on black
Tenths: red on white
- Voltage: 4-40VDC and 10-80VDC
- Power Consumption:
.03W @ 12VDC
.70W @ 48VDC
- Temperature: -22° to 150°F (-30° to 65°C)
Special Model Temp: -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 52A/B

- | | | |
|-----------------------|--------------------------|--------------------------|
| Operating Voltage | GZ52A
8-30VDC | GZ52B
8-30VDC |
| Current Consumption | <3mA @12VDC | <3mA @12VDC |
| Accuracy | ±0.5sec/day@20°C | ±0.5sec/day@20°C |
| Mechanical Movement | 2-Phase Step Motor | 2-Phase Step Motor |
| Display | 6 Digits (99999.9 Hours) | 6 Digits (99999.9 Hours) |
| Operation Indicator | LED | LED |
| Bezel | Metal (Chrome) Circular | Black (Plastic) Circular |
| Electrical Connection | 1/4" Quick Connectors | 1/4" Quick Connectors |
| Polarity Protection | Diode | Diode |
| Mounting | Flush (screw adj.) | Flush (screw adj.) |
| Operating Temperature | -40°C - 85°C | -40 C - 85°C |
| Storage Temperature | -40°C - 90°C | -40 C - 90°C |
| Environmental Rating | IP 65 | IP 65 |
| Shock Resistance | DIN EN60068-2-27 | DIN EN60068-2-27 |
| Vibration Resistance | DIN EN60068-2-64 | DIN EN60068-2-64 |
| Approvals | CE | CE |



The Hour Meter Without Electrical Connection RZ Series

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)