Clock
Profil TGV 950
Profil TGV 970

AFNOR / IRIG B receiver

RADIO receiver

INSTALLATION AND OPERATING INSTRUCTIONS

1 rue du Général de Gaulle
49340 TRÉMENTINES
FRANCE
Tél. : 02 41 71 72 33
www.bodet-time.com

Trémentines plant

Réf.: 607100 F

Upon receipt, always check the product for damage during shipment. If any is found, you may file a damage claim with the carrier

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I - INITIAL VERIFICATION

Thank you for choosing a BODET clock. This product has been carefully designed for your satisfaction based on ISO9001 quality requirements. We advise you to read this manual thoroughly before attempting to manipulate the clock.
Keep this booklet during all the life of your clock, so that you can refer to it each time it is necessary.
Bodet accepts no responsibility for accidents resulting from any use not conforming with the above provisions.
Any modification to the product will invalidate the warrantee.

1.1 Unpacking the clock

Unpack with caution and check the contents of the packaging. It must contain :

- the TGV clock,
- for radio synchronised models : the antenna,
- a key to open the casing,
- an antistatic cleaning kit,
- this booklet.

Versions : a label inside the clock specifies what model the clock is :

AFNOR HMS or AF HMS = the clock is a receiver driven by : a master clock that sends AFNOR NFS-87500A coded time messages or a radio receiver antenna, and powered by 240 VAC, with a servo second hand.

1.2 Cleaning

Use an antistatic product of similar type to the one shipped in the original packaging. Never use alcohol, acetone or any other solvent liable to damage the casing and glass on your clock.

II - DISCLAIMER

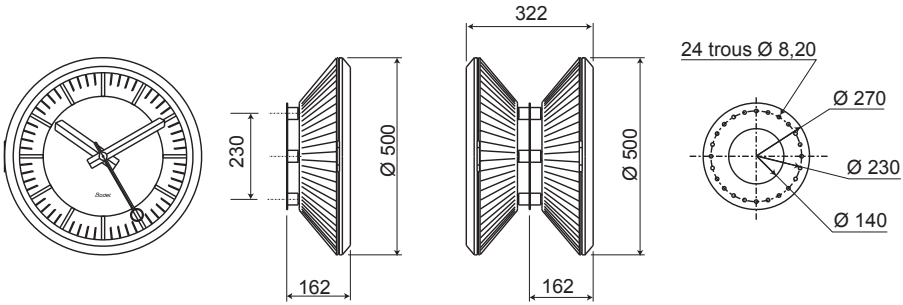
Bodet accepts no responsibility for accidents resulting from any use not conforming with the above provisions.
Any modification to the product will invalidate the warrantee.
Read the chapter «Safety instructions» in this manual before installing this equipment.

III - INSTALLATION

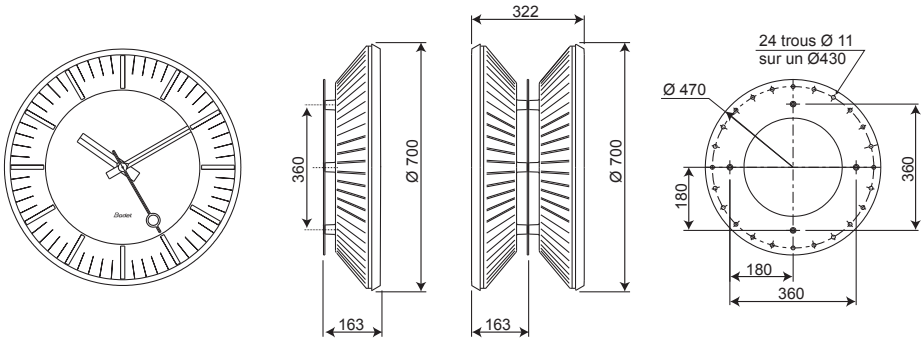
3.1 Mechanical installation

Select the place where the clock will be installed while making sure that radio reception is correct for radio synchronisation models.

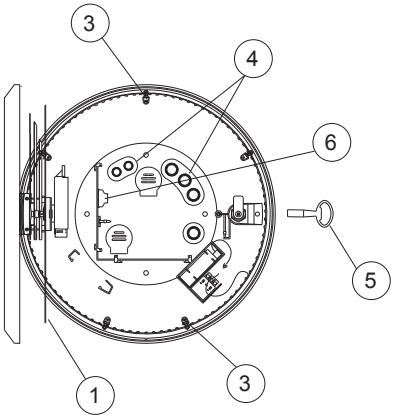
TGV 950 clock



TGV 970 clock



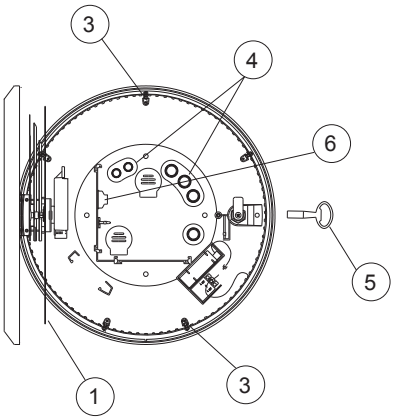
- Open the clock by giving the screw a quarter turn with the key (5).
- On the TGV950 clock, remove the 2 locking srews (3) (provided for the transit).
- Pull the whole dial (1) towards you.
- The hinge arm opening system ensures a fast and secure maintenance of the lighting without having to put the front part of the clock on the ground.
- Hang the clock and fix it with screws, without locking it, after you have put the wires through the waterproof pressure joints (4).



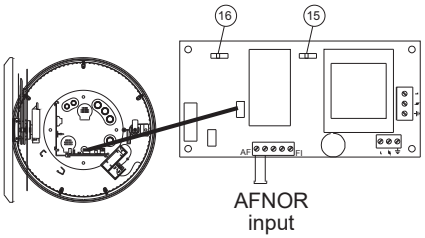
3.2 Setting in operation

3.2.1. AFNOR/IRIG-B receiver clock

- Switch off the circuit breaker involved.
- Connect the mains 230 V +/-10% 50 Hz to the terminal (6) (Live, Neutral and Earth wires; section 1.5 mm² to 2.5 mm² and bare on 5 mm). The mains cable must be oversheathed up to the terminal.
- Attach the 3 wires (Live, Neutral an Earth) with the cable tie.
- A double/reinforced electrical insulation must be assured between the mains cable and the SELV wires.
- Connect the time signal network to the terminals 1 and 2 of the AFNOR receiver card.
- Check that the dip switch (16) is pushed to the AFNOR position.



- Check that the battery is connected to the terminal (2) of the electronic card.
- Lock the clock.
- Push the dip switch (15) to the ON position.
- Close the clock.
- Power the clock.



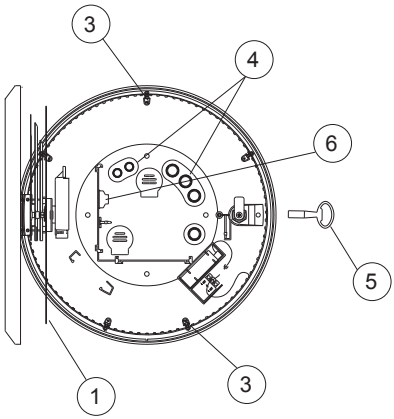
Operating principle of AFNOR receiver clock :

- When switching on power supply, hands are set at 12.00 until the correct reception of the time signal is achieved. After 3 successive coherent AFNOR time signals are received, the clock starts and automatically get on time with fast impulses.

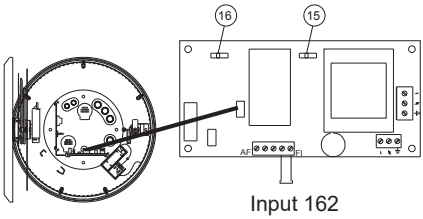
- During 1 hour without reception of the time signal the clock operates with its own time basis. If the signal recovery is achieved within this hour, the clock will be resynchronised automatically. After 1 hour the clock is reset and hands are set on position 12.00.
- Without power supply 230V the clock operates with its battery during 1 hour. After 1 hour without time signal reception or if the battery voltage drops down, hands are set position 12.00 until power supply recovery.
- The synchronous second hand witch is powered by the main 12V 50Hz, will stop immediately.

3.2.3. Radio receiver clock

- Switch off the circuit breaker involved.
- Connect the mains 230 V +/-10% 50 Hz to the terminal (6) (Live, Neutral and Earth wires; section 1.5 mm² to 2.5 mm² and bare on 5 mm). The mains cable must be oversheathed up to the terminal.
- Attach the 3 wires (Live, Neutral an Earth) with the cable tie.
- A double/reinforced electrical insulation must be assured between the mains cable and the SELV wires.
- Connect the two wires of the antenna to the terminals 4 and 5 of the electronic card.



- Check that the dip switch (16) is in receiver position.
- Check that the battery is connected to the terminal (2) of the electronic card.
- Lock the clock.
- Push the dip switch (15) to the ON position.
- Close the clock.
- Power the clock.



Input 162

Operating principle of radio receiver clock

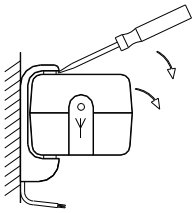
- When switching on power supply, hands are set at 12.00 until the correct reception of the time signal is achieved. After 3 successive coherent time signals are received, the clock starts and automatically get on time with fast impulses.
- Once the clock is synchronised, it operates with its own time basis. If the signal is back within this period, the clock set itself automatically.
- Without power supply 230V the clock operates with its battery during 1 hour. After 1 hour without time signal reception or if the battery voltage drops down, hands are set position 12.00 until power supply recovery.
- The synchronous second hand witch is powered by the main 12V 50Hz, will stop immediately.

3.3 Setting the antenna

For radio synchronised clocks :
The best reception conditions are outside buildings or near windows.
Positioning the antenna (perpendicular to the direction of the transmitter) improves reception.

The antenna must not be placed on a metal support.

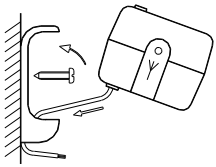
As for any radio system, a building with metal structures can cause interference in the reception of the signal.
Computers, television sets and electrical appliances can also cause interference that disrupt the reception of the radio message.



- Unlock the antenna from its support.

- Fix the support with the screw supplied and lock the antenna again.

Beware : in a double face system. So as not to cause interference between the 2 antennas, the latter must be fixed **at least one metre away from each other**.



IV - SAFETY INSTRUCTIONS

Installation and maintenance of this equipment must be carried out by qualified personnel only.

Electrical installation must comply with current standard CEI 364. (NF C15-100 in France for example).

This is a class I product.

Do not apply the power before installation.

The mains supply for the clock must include a circuit breaker rapidly accessible. It must break neutral and phase simultaneously.

This circuit breaker must be switched off during maintenance operations.

Use cable ties to attach the mains cable (see section “Installation).

Caution: use of an unqualified battery may present a risk of explosion. Waste battery should be disposed so that they can be recycled.

LED lights can be hazardous to the eyes.

The LED lighting systems are less energy consuming than other types of lighting and have lifetimes much longer.

Partly because of the limited nature of the surface emission, LEDs have luminances at least 1000 times higher than those of a traditional lighting source. The level of direct radiation from such sources exceeds the level of visual discomfort.

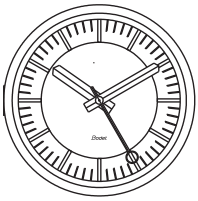
Our clocks are designed so that there is no direct light, and thus no risk. However, it is recommended to switch off the lighting system before opening the clock for maintenance.

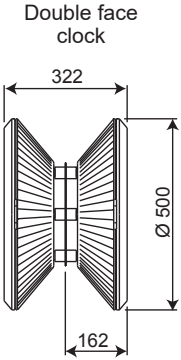
IV - TECHNICAL FEATURES

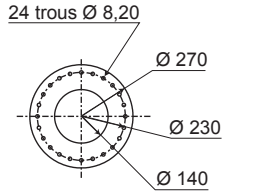
Power supply : 230 Volt 50 Hz ±10%,
Operating temperatures : -25°C to +50°C,
Protection index : IP54.

TGV 950

Readability : 40m.
Weight : 8 kg.
Lighting consumption : 14 W.
Dimensions :



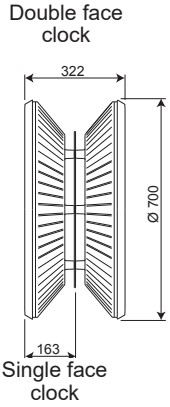


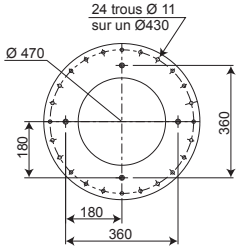


Disk for hanging bracket or suspension on a chain

TGV 970

Readability : 50m.
Weight : 16 kg
Lighting consumption : 20 W.
Dimensions :





Disk for hanging bracket or suspension on a chain

Radio receiver clock with synchronous second hand HMS :

Permanent power supply: 230V 50Hz; 110mA pour une TGV950 et 140mA pour une TGV970.

Earthing system: TT or TN (this product is also suitable for IT earthing system).

Battery: risk of explosion if the battery is not properly connected. Replace it with the same model or with an equivalent model recommended in this manual. Follow the instructions in this manual for changing the battery. This clock requires battery replacement by qualified service personnel. The battery must be model VARTA Ni-MH 5/CP300H 6V-280mAh.

Accuracy : absolute with automatic summer/winter changeover.

AFNOR/IRIG-B receiver clock with synchronous second hand :

Permanent power supply: 230V 50Hz; 110mA for TGV950 and 140mA for TGV970.

Earthing system: TT or TN (this product is also suitable for IT earthing system).

Battery: risk of explosion if the battery is not properly connected. Replace it with the same model or with an equivalent model recommended in this manual. Follow the instructions in this manual for changing the battery. This clock requires battery replacement by qualified service personnel. The battery must be model VARTA Ni-MH 5/CP300H 6V-280mAh.

Accuracy of the master clock.

V - WHAT TO DO IF...? ...CHECK.

What to do if...?	… Check.
■ No synchronisation after the installation.	■ Check that the type of signal send by the master clock (min, ½ min, AFNOR/ Irig-B) is in accordance with the type programmed in the clock.
■ AFNOR / Irig-B receiver stopped at 12h00.	■ Lack of impulse since more than 1 hour, check the master clock and the network.
■ The synchronous second hand is stopped on a receiver clock.	■ The permanent supply powering second hand is cut-off. Check this power supply.