

# Mounting & installation Manual

## MW 24 series

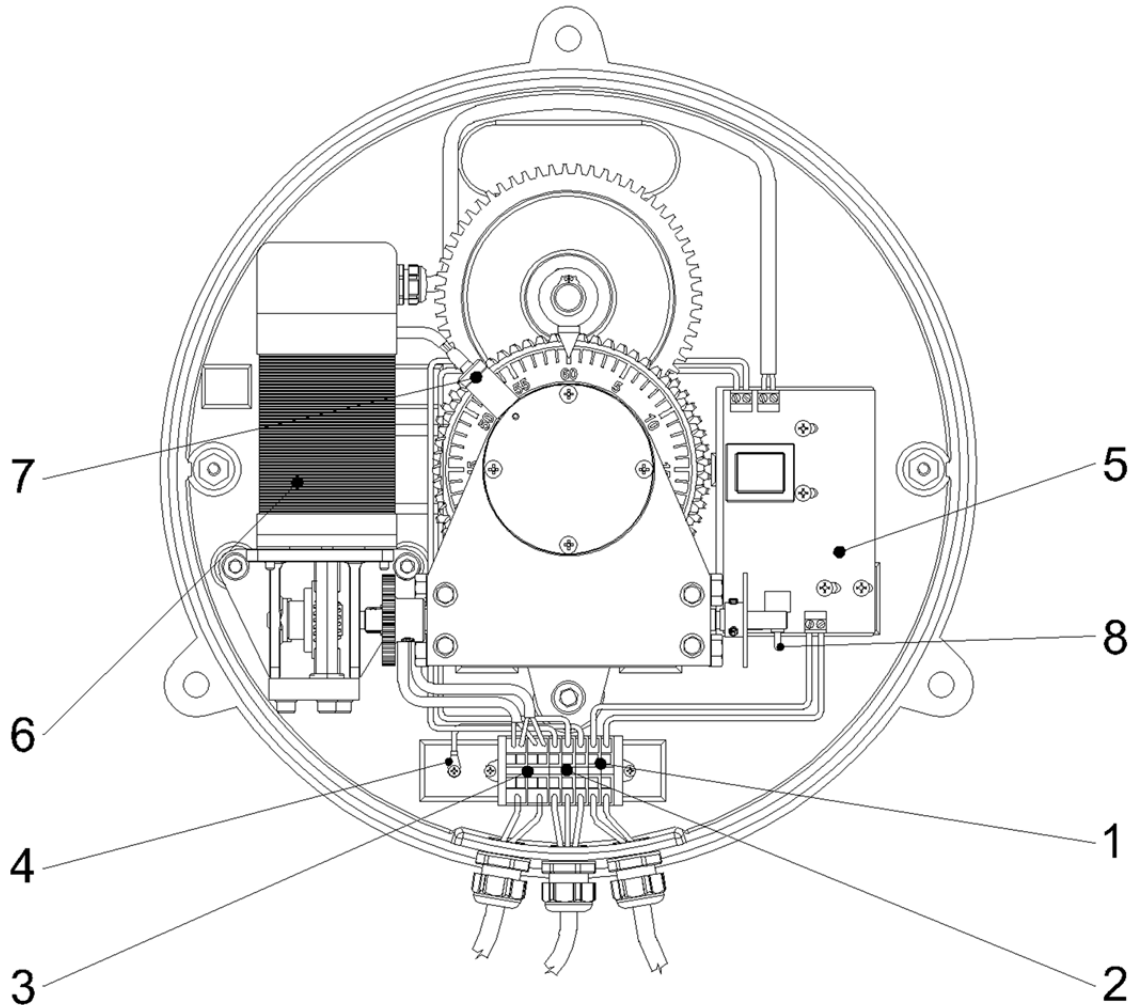


# Table of contents

- 1 Description .....3
- 2 Mounting .....4
- 3 Variants of hands mounting .....5
- 4 Installation and wiring diagram .....6
- 5 Service instructions.....7
- 6 List of spare parts for motor movement MW24 .....8

# 1 Description

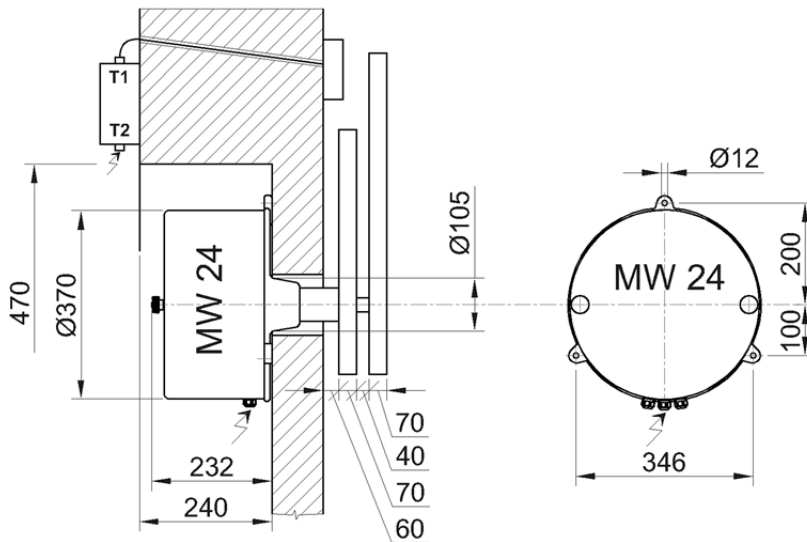
General purpose MW24 movement, intended for illuminated clock hands of facade clocks. Synchronization is carried out by polarized minute impulses from master clock (impulse voltage 12, 24, 48 or 60 V). Connection voltage is 110, 220, 230 VAC / 50 or 60 Hz.



1. Input clamps for polarized minute impulses from master clock
2. Input clamps for permanent AC mains power supply for motor movement
3. Input clamps for power supply of the hand illumination
4. Input clamp for mass-earthing of clock movement
5. Electronics MW 24 E-MEM
6. Motor
7. Carbon contact for hand illumination
8. Switch with 3 positions: FAST, OFF, NORMAL

## 2 Mounting

### Example of mounting MW 24 and fixing points



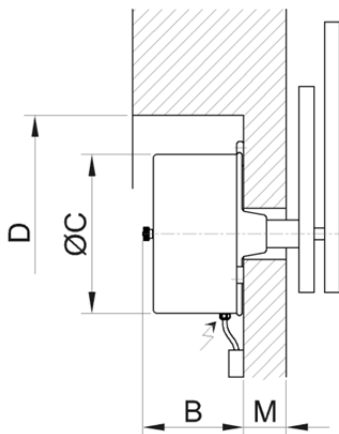
At first step prepare 3 fixing holes to the wall according to fixing points of MW 24 and a hole through the wall for the shafts of the movement. Mount MW 24 on the prepared place on wall.

Install the dial or hour markers. After this step you can install clock hands on hubs which are fixed on the shafts.

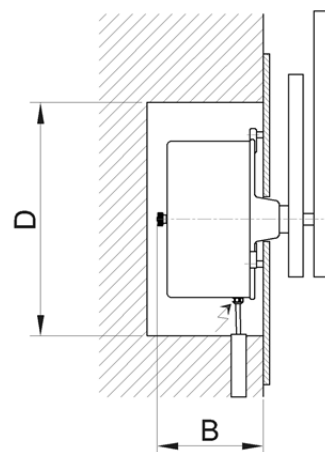
### There are two mounting possibilities:

The clock movement is usually mounted behind the wall, which means inside the building and the length of the hand shafts are made according to the wall thickness  $M$ . For mounting from the front side, the clock movement is fixed on a cover plate (dial).

#### rear sided wall mounting



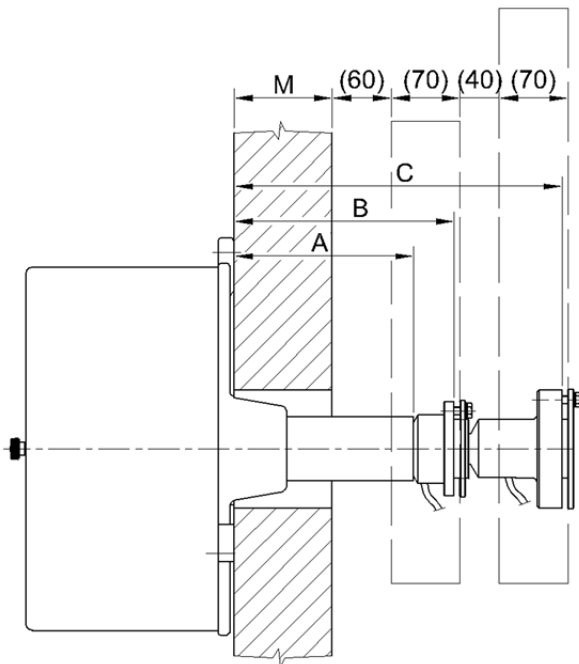
#### front sided wall mounting



### 3 Variants of hands mounting

Mainly differences between two variants of hands mounting are different types of hand bushing it follow that these two types of bushing has different lengths of shafts.

#### MW 24 A – variant for the hands to be mounted back of bushings



Wall thickness M to be specified by customer only. Minimal wall thickness M is allowed 0 mm.

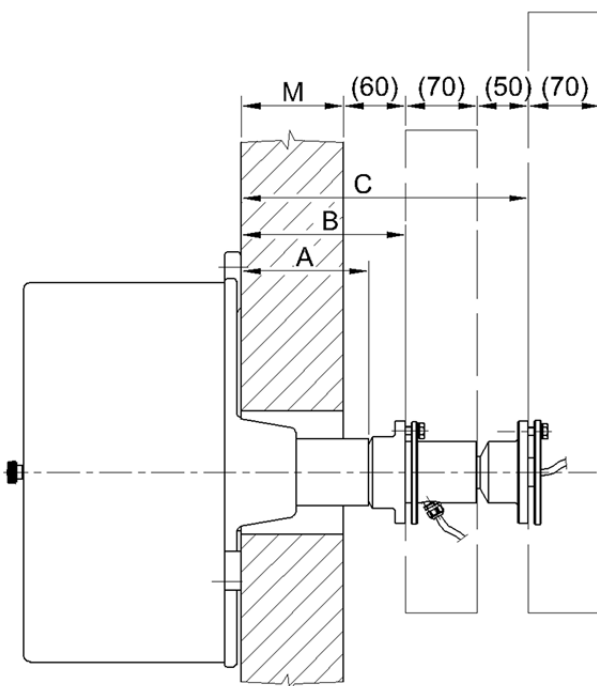
**Lengths of shafts from footing**  
Distances A, B, C fixed as follows:

$$A = M + 83 \text{ [mm]}$$

$$B = M + 124 \text{ [mm]}$$

$$C = M + 234 \text{ [mm]}$$

#### MW 24 B – variant for the hands to be mounted front of bushings



Wall thickness M to be specified by customer only. Minimal wall thickness M is allowed 30 mm.

**Lengths of shafts from footing**  
Distances A, B, C fixed as follows:

$$A = M + 24 \text{ [mm]}$$

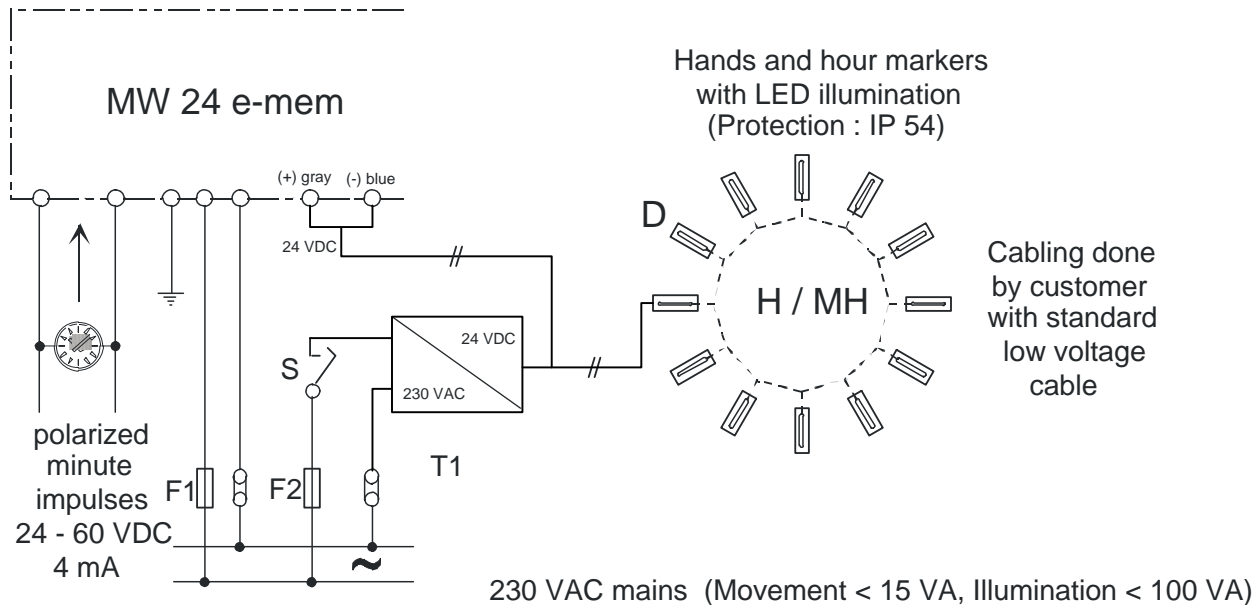
$$B = M + 60 \text{ [mm]}$$

$$C = M + 180 \text{ [mm]}$$

## 4 Installation and wiring diagram

After mounting of clock movement, installation dial or hour markers and hands and **set them at 12:00 o'clock** you can set electronic parts now.

Connect MW 24 to the impulse line of the master clock, connect to 230 VAC for motor and illumination. Use the switch on the MW 24 electronic to start the movement running to current time (change the position of switch from "OFF" to "FAST"). When the movement is at current time, change the position of switch to "NORMAL". Now the clock driven by MW 24 is at current time and synchronized by minute impulses from master clock.



**D:** 12 hour markers with internal LED illumination (white)

**F1:** AC mains fuse 6A, for motor movement MW 24

**F2:** AC mains fuse 6A, for dial illumination (hands and hour markers)

**H:** Hour hand with internal LED illumination (white)

**MH:** Minute hand with internal LED illumination (white)

**MW 24 e-mem:** Motor driven slave clock movement with internal collector rings for supply of hands illumination.

**S:** Illumination switch

**T1:** External 230 VAC / 24 VDC power supply for hour markers and hands LED illumination

### Technical data LED illumination

- Luminance : approx. 700 cd/m<sup>2</sup>
- Colour temperature : approx. 5700K (daylight)
- Operation temperature range : -20 to +70 °C
- MTBF illumination : > 400'000 h
- Lifetime LED : > 50'000 h
- Viewing distance : day : 400 to 800 m; night : 300 to 400 m

## 5 Service instructions

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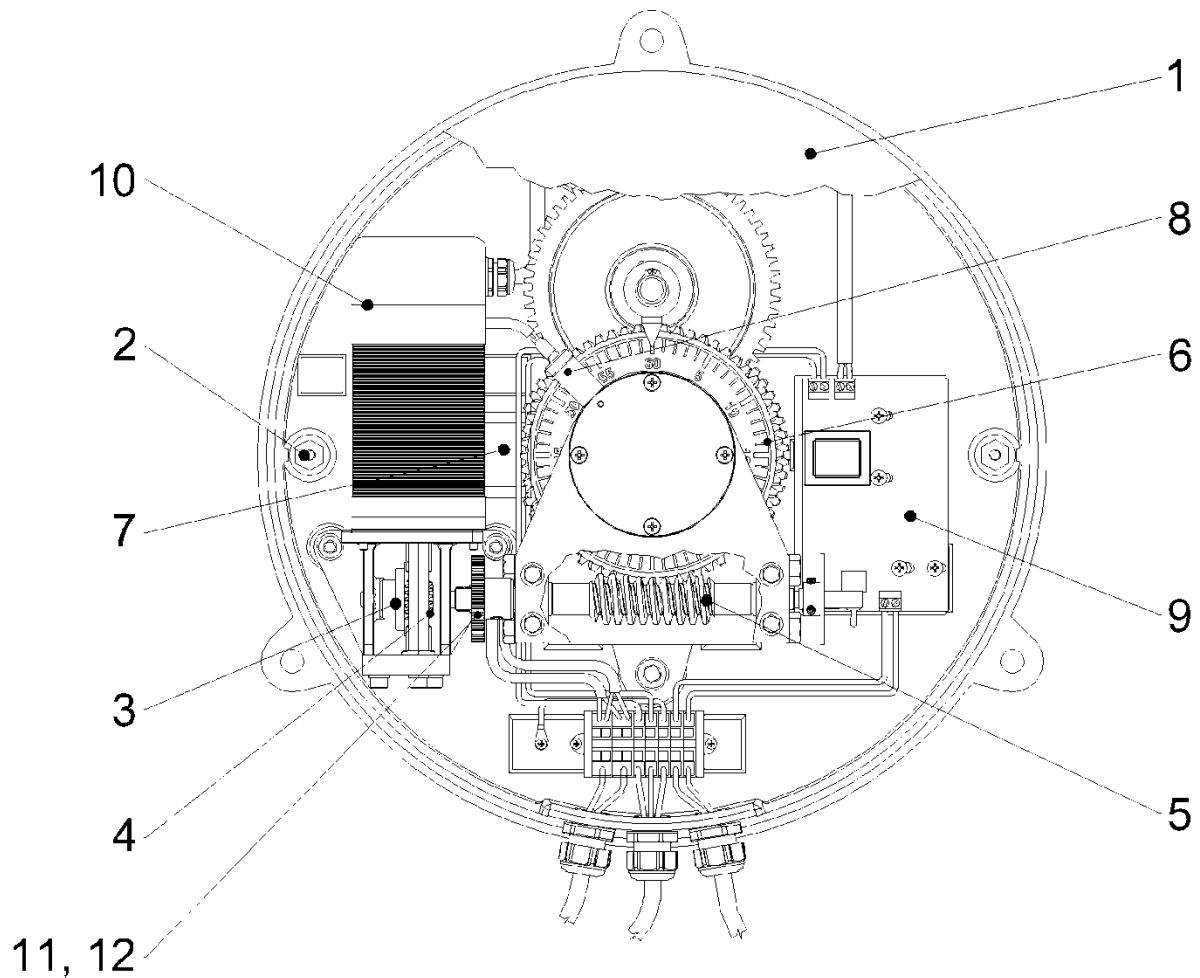
Technical inspection of MW 24 movements should be made every year.

Within inspection these points has to be checked:

- **Electric contacts** – all electric contacts at clamps must be properly tightened
- **Carbon contacts** – for reliable function of lightning must be checked all carbon contacts
- **Cables** – if any cable's electric insulation is break you must change it
- **Gearings** – all gearwheels must be properly fixed at the shafts using set screws, check it and possibly tighten all loose set screws
- **Lubrication of gearings** – for cultivated run of movement all gearings must be lubricated by grease appointed for gearings

## 6 List of spare parts for motor movement MW 24

Art. Nr.	Art. Description	Drawing number	Pos.
120703	Cover of MW 24	4 - 800787.001.00.02.0	1
25600	Stud of cover	4 - 800787.001.00.03.0	2
25551	Worm wheel Z=46	4 - 800787.001.10.02.1	3
25550	Single-thread worm	4 - 800787.001.00.21.1	4
25555	Single-thread worm shaft	3 - 800787.001.00.15.0	5
25553	Worm wheel Z=60	4 - 800787.001.01.01.0	6
120709	Carbon with conductor	4 - 800787.001.07.03.1	7
120699	Assembly of minute shaft carbon holder	4 - 800787.001.07.00.1	8
800130	Electronics MW24 E-MEM		9
120590	Synchronous motor		10
25601	Gear wheel Z=40	4 - 800787.001.00.25.1	11
25602	Gear wheel Z=20	4 - 800787.001.10.06.1	12









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