

# Installation Instructions

05.10.04 DU

## Floral Clocks

1. Delivery
2. Preparation
3. Installation of the flower clock
4. Mounting the protective hood
5. Mounting the hands
6. Commissioning
7. General



**Important:  
Follow these instructions  
Step by step !**

## Installation instructions floral-clock movements UFM FL and UFM FL/C

### 1. Delivery

Upon delivery, the parts for the floral clock (motor movement, hands and master clock) should be inspected immediately to detect possible transport damage. When the goods have been damaged, inform the carrier at once. Also, please inform your Inducta-representative immediately.

### 2. Preparation

The goods should be unpacked carefully and stored in a suitable place. The recipient for the motor movement should be executed according to drawing **D 214 760** or **D 214 761**. The concrete recipient should be placed on a layer of draining gravel and an appropriate sewer should be able to deal with possible draining water or other fluids.

The electric conduits should withstand humidity and be installed permanently between master clock installation site (which should be easily accessible) and clock movement. To avoid a too big voltage drop (distance!), the cable cross-section should be chosen with care.

Depending on type of master clock and motor movement the electric conduits should be made according to diagram **D 217 078-1** or **D217 078-2**.

### 3. Installation of the floral clock

As soon as the substructure has been completed, the installation of the floral clock movement can be started. The movement carrier, which is part of the delivery, should be fastened to the concrete recipient with 4 dowels and bolts M12 x 120 mm. The movement itself is fastened onto the carrier by means of 4 bolts and can easily be taken away for revision purposes.

The electrical connections should be made according to diagram **D 219 123 (7-10)**, by connecting the reversed polarity minute impulse lead from the master clock with terminals 1 and 2, mains on L and N and earth on ground.

Before mounting the protective hood, the master clock should be commissioned and the correct functioning of the movement should be checked.

#### Commissioning without hands

1. Set up the electrical installation
2. Set Master clock, mother clock or time base on „STOP" (see also separate instruction sheet).
3. Clear the Memory with button T1
4. Set Master clock, mother clock or time base on „NORMAL" (see also separate instruction sheet).

In case the clock is equipped with a seconds hand, its axle should turn all the time; at the position 12 o'clock it will be synchronised by the minute impulse.

**After commissioning the master clock and the movement and before mounting the protective hood, unscrew the red oil filler plug and fill the movement with the supplied oil. (check at oil level plug). Screw both plugs back in and tighten carefully.**

#### 4. Mounting the protective hood

The protective hood is put over the movement and the concrete recipient and keeps away the soil, which should not touch the axles to guarantee air circulation.

#### 5. Mounting the hands

**Before mounting the hands, the floral clock should be switched off again.** Carefully slip the hour hand over its axle, point it at 12 o'clock and tighten the bolts. Make sure that the protective hood and the hand bushing do not have any contact. Repeat this procedure with the minute hand.

In case the clock is equipped with a seconds hand, slip it over its axle and tighten the screws in position "stop" (direction 12 o'clock). In normal action this hand turns 360° in 60 seconds and will be synchronized with the minute impulse.

Adjusting the hands to real time is done with the master clock.

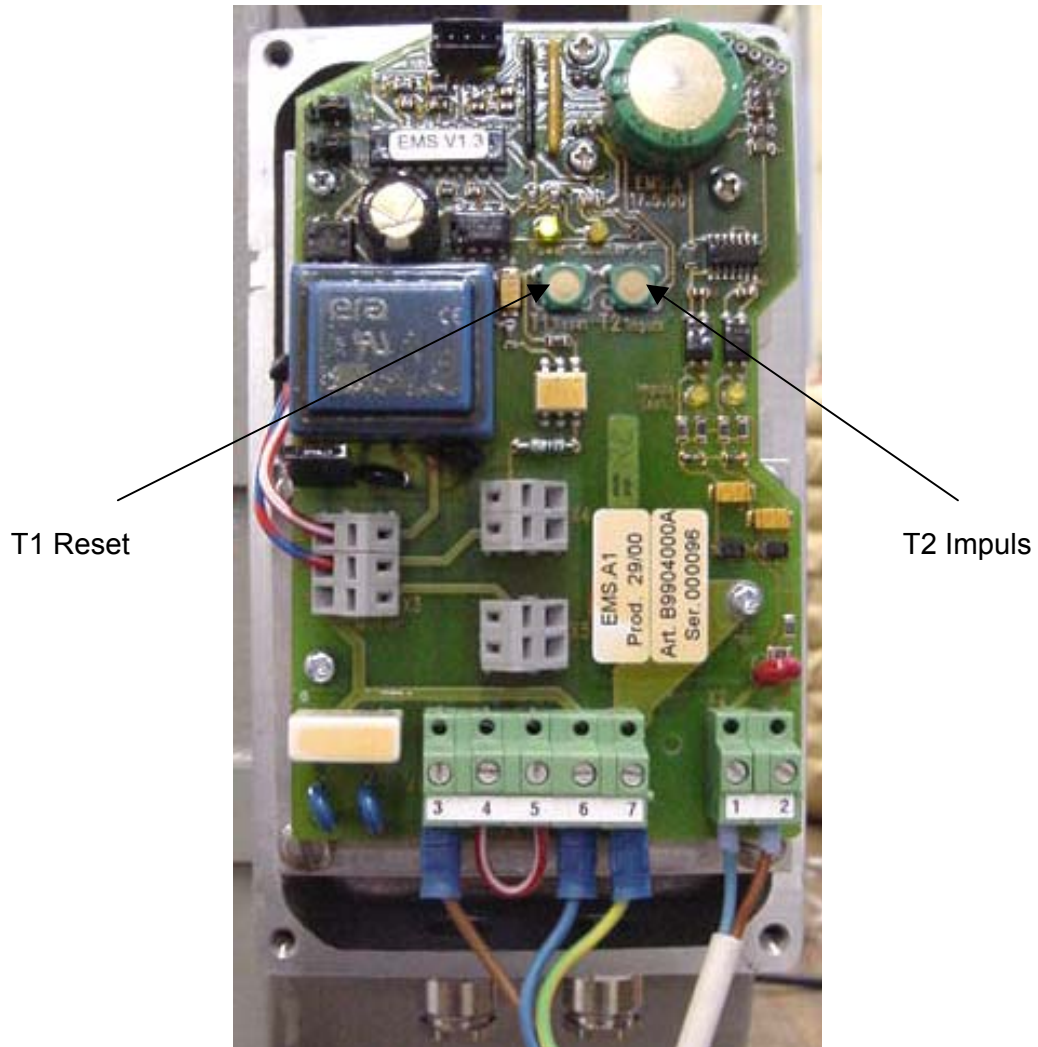
Only after successful mounting and commissioning of the movement with hands the actual planting of the dial can begin.

#### 6. Commissioning:

1. Switch on the mains for master clock and motor movement.
2. Set the Mother clock on Local time (see also separate instruction sheet).  
With Aerial-Antenna (DCF, MFS, HBG) or GPS-Antenna the Mother clock will be adjusted automatically on Local time.
3. Synchronise the Flower clock time on the Local time. (see also separate instruction sheet).
4. Set the mother clock on position "Normal". (see also separate instruction sheet).
5. Now the clock will advance 1 minute every minute.
6. If the movement is always one minute slow or fast, interchange the impulse connections at terminals 1 and 2.

## 7. General:

This motor movement is fitted with an electronic impulse memory. In case of a mains breakdown, this system memorizes the incoming reversed polarity impulses and slowly takes the hand spindles back to the correct time after the mains have been restored. The Flowerclock can be adjusted with the button T2.



A motor is switched on which **slowly** turns the spindles and at the same time counts back the impulses in the memory until this is empty. Then the motor stops. Now the clock is synchronous with the actual time again. (see page 5)

The time that the clock needs to catch up after a mains interruption can be calculated with the following formula:

$$X = \frac{t}{\left[ \frac{60}{Z} - 1 \right]}$$

**X** = time to catch up in minutes: i.e. from the moment mains has been restored until the clock shows correct local time again.

**t** = mains interruption in minutes.

**Z** = time in which the movement moves the minute hand from one minute to the next, in seconds.

**Example 1:** mains interruption 1 hour, Z = 12 sec.

$$X = \frac{t}{\left[ \frac{60}{Z} - 1 \right]} = X = \frac{60}{\left[ \frac{60}{12} - 1 \right]} = \frac{60}{4} = \underline{\underline{15 \text{ min.}}}$$

Mains interruption at 18.00 h.  
Mains return at 19.00 h.

Question: When does the clock show correct local time again?

Answer: at 19.15 h.

**Example 2:** mains interruption 4 hours, Z = 12 sec.

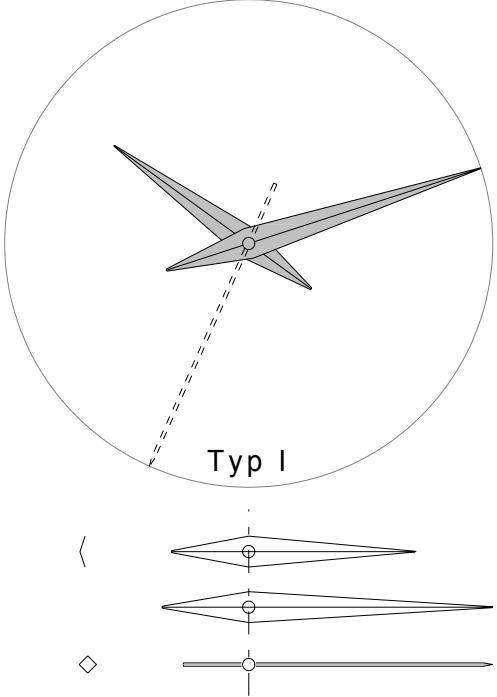
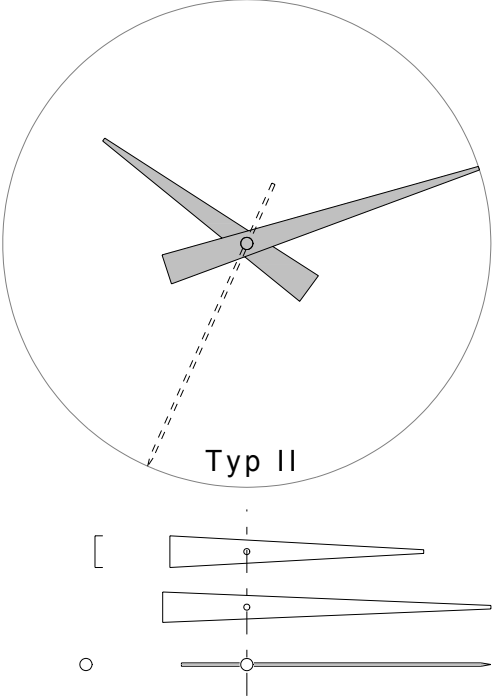
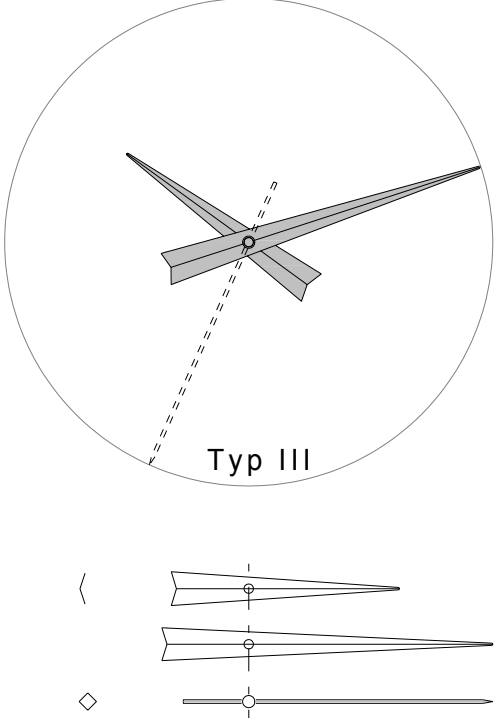
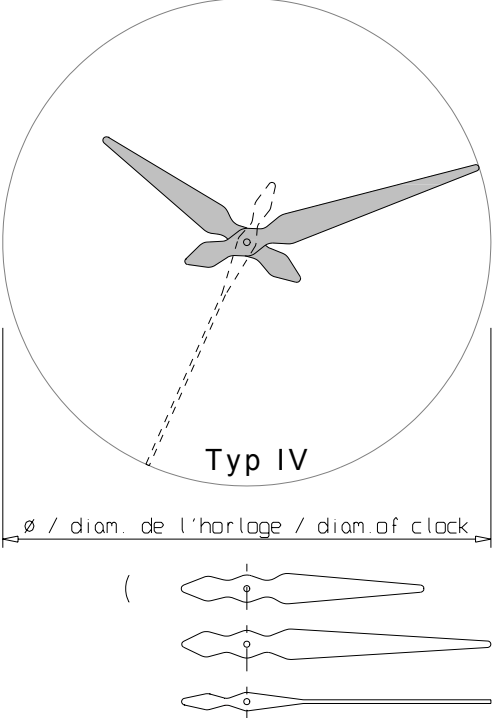
$$X = \frac{t}{\left[ \frac{60}{Z} - 1 \right]} = X = \frac{240}{\left[ \frac{60}{12} - 1 \right]} = \frac{240}{4} = \underline{\underline{60 \text{ min.}}}$$

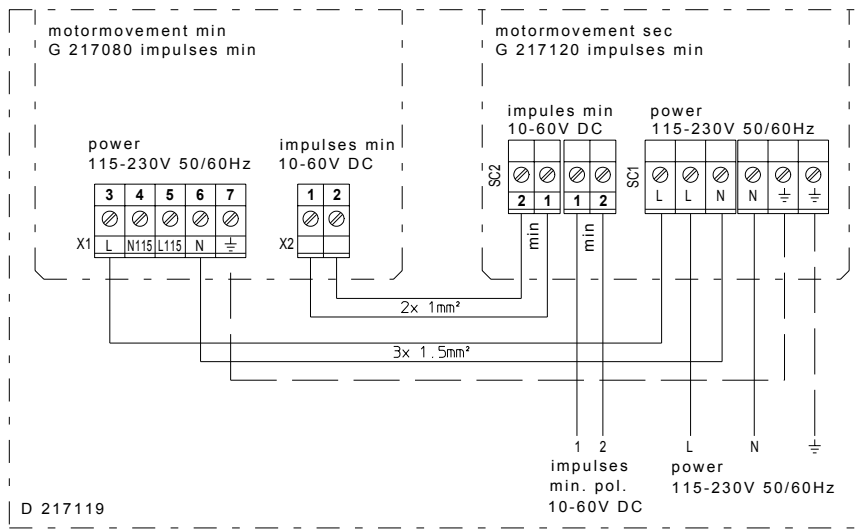
Mains interruption at 18.00 h.  
Mains return at 22.00 h.

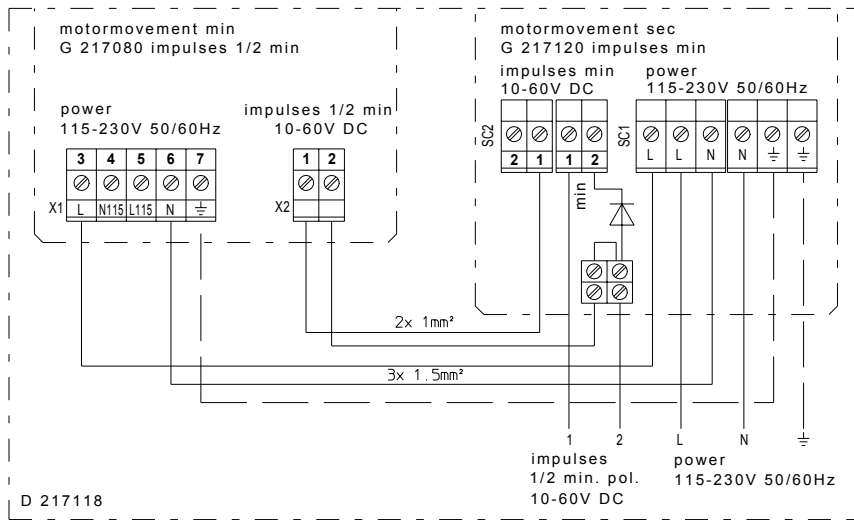
Question: When does the clock show correct local time again?

Answer: at 23.00 h.

mains interruption in hours	1	4	8	12	16	20	24
time to move from one minute to the next	12	12	12	12	12	12	12
time to catch up in hours	¼	1	2	3	4	5	6

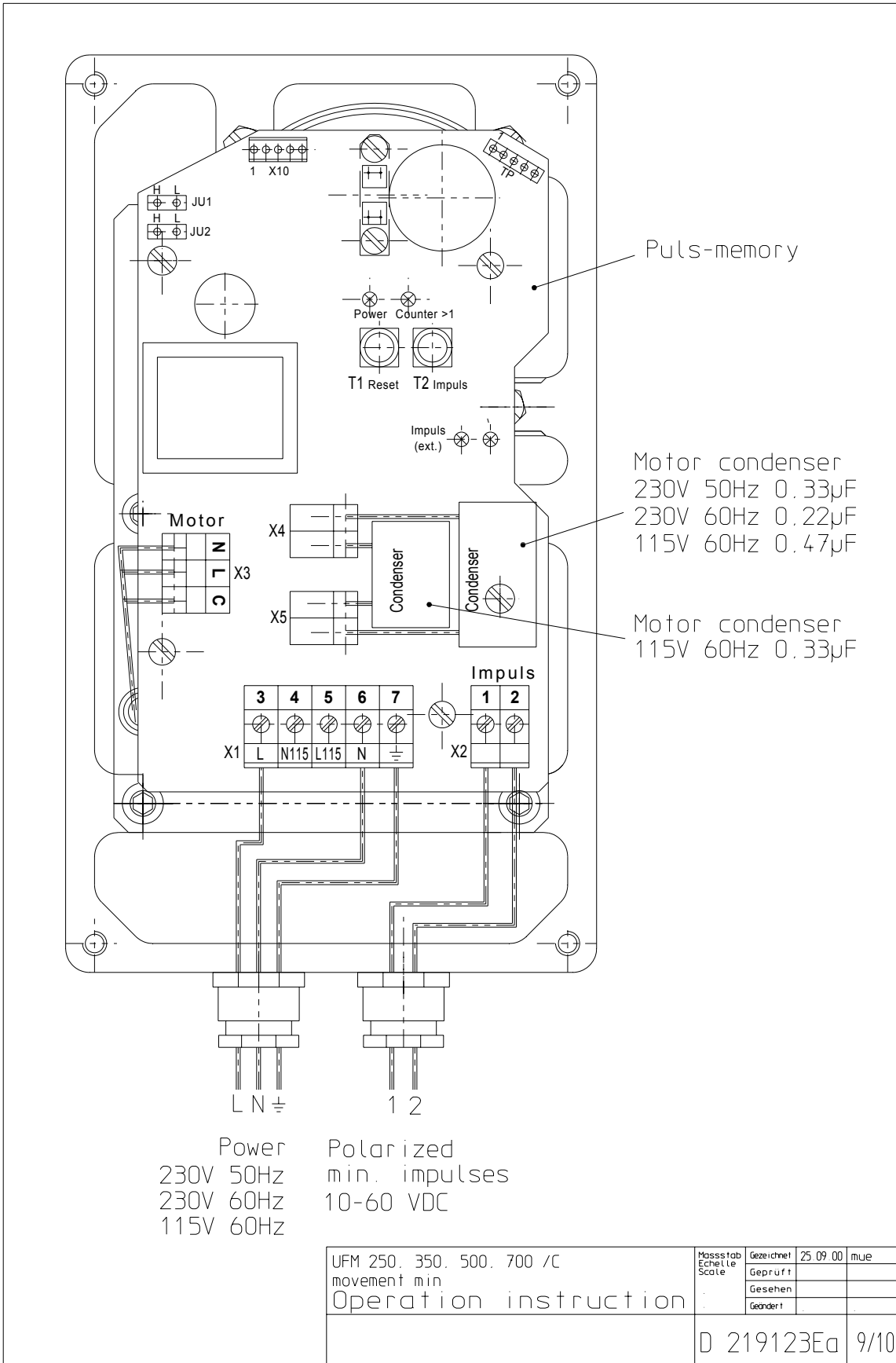
 <p style="text-align: center;"><b>Typ I</b></p>	 <p style="text-align: center;"><b>Typ II</b></p>													
 <p style="text-align: center;"><b>Typ III</b></p>	 <p style="text-align: center;"><b>Typ IV</b></p> <p style="text-align: center;">∅ / diam. de l'horloge / diam. of clock</p>													
<p style="text-align: center;"><b>Blumenuhr - Horloge florale - Flower Clock</b>  <b>Zeigertypen - Type des aiguilles - models of hands</b></p> <p style="text-align: center;"><small>Massänderungen vorbehalten / sous réserve de changes de mesure / mesure changes reserved</small></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;"><small>Scale</small></td> <td style="width: 15%; text-align: center;">☐ ⊙</td> <td style="width: 15%;"><small>Gezeichnet</small> 12.10.04</td> <td style="width: 15%;"><small>FCH</small></td> <td rowspan="3" style="width: 40%; text-align: center; vertical-align: middle; font-size: 2em;">C 207 380</td> </tr> <tr> <td></td> <td></td> <td><small>Gesehen</small></td> <td></td> </tr> <tr> <td></td> <td></td> <td><small>Geändert</small></td> <td></td> </tr> </table>		<small>Scale</small>	☐ ⊙	<small>Gezeichnet</small> 12.10.04	<small>FCH</small>	C 207 380			<small>Gesehen</small>				<small>Geändert</small>	
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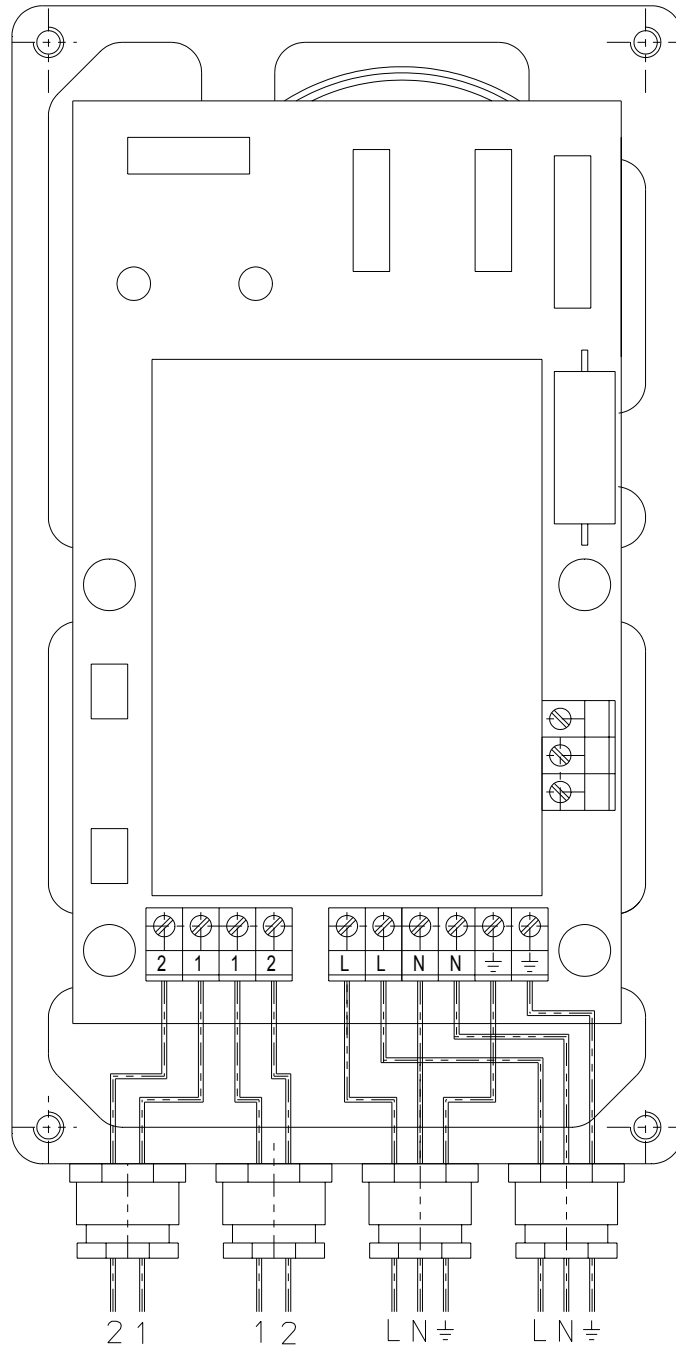




UFM 250. 350. 500. 700 /C impulses 1/2min pol Operation instruction	Massstab Echelle Scale	Gezeichnet Geprüft Gesehen Geändert	25.09.00 mje
	D 219123Ed		8/10



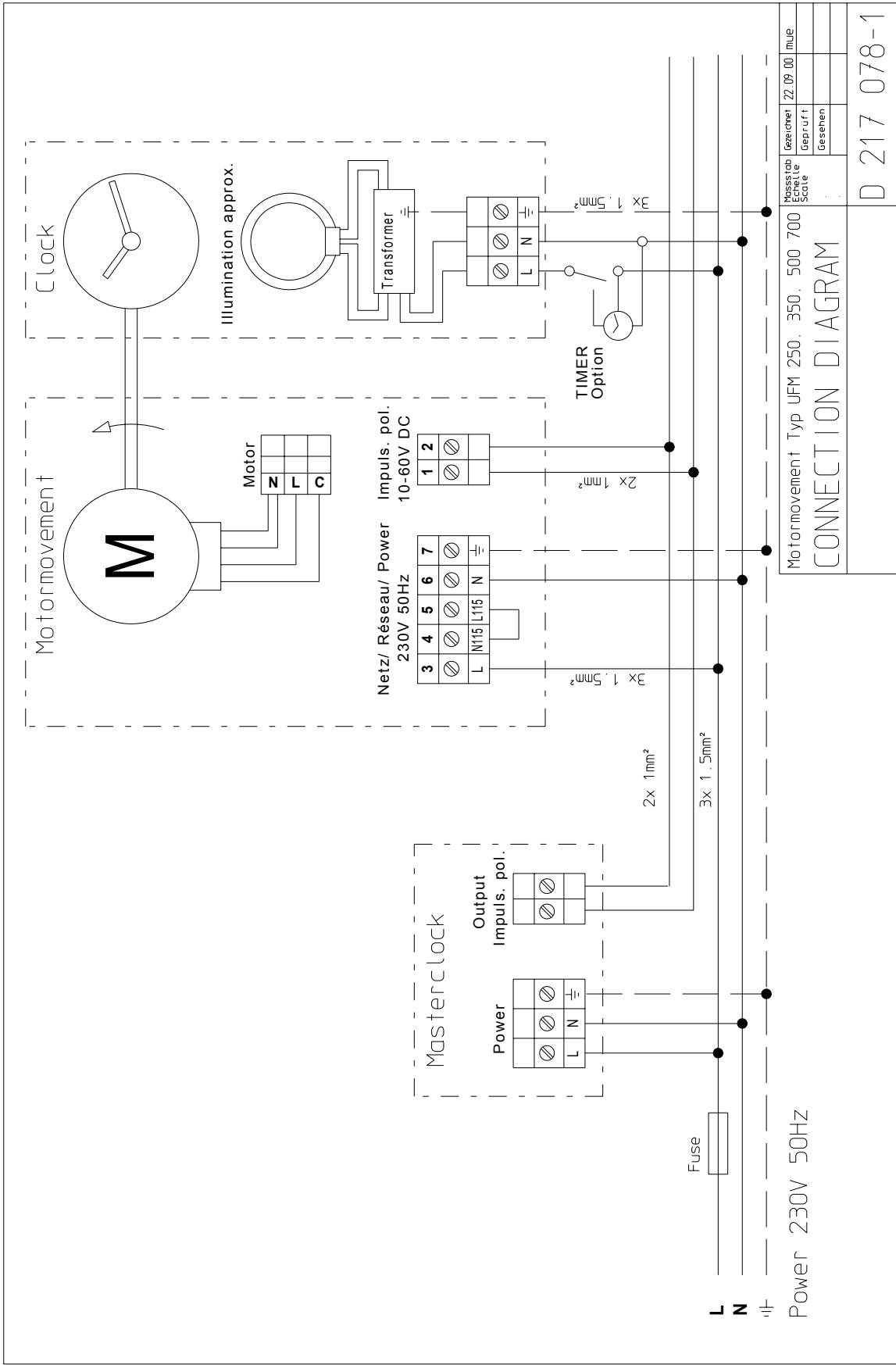


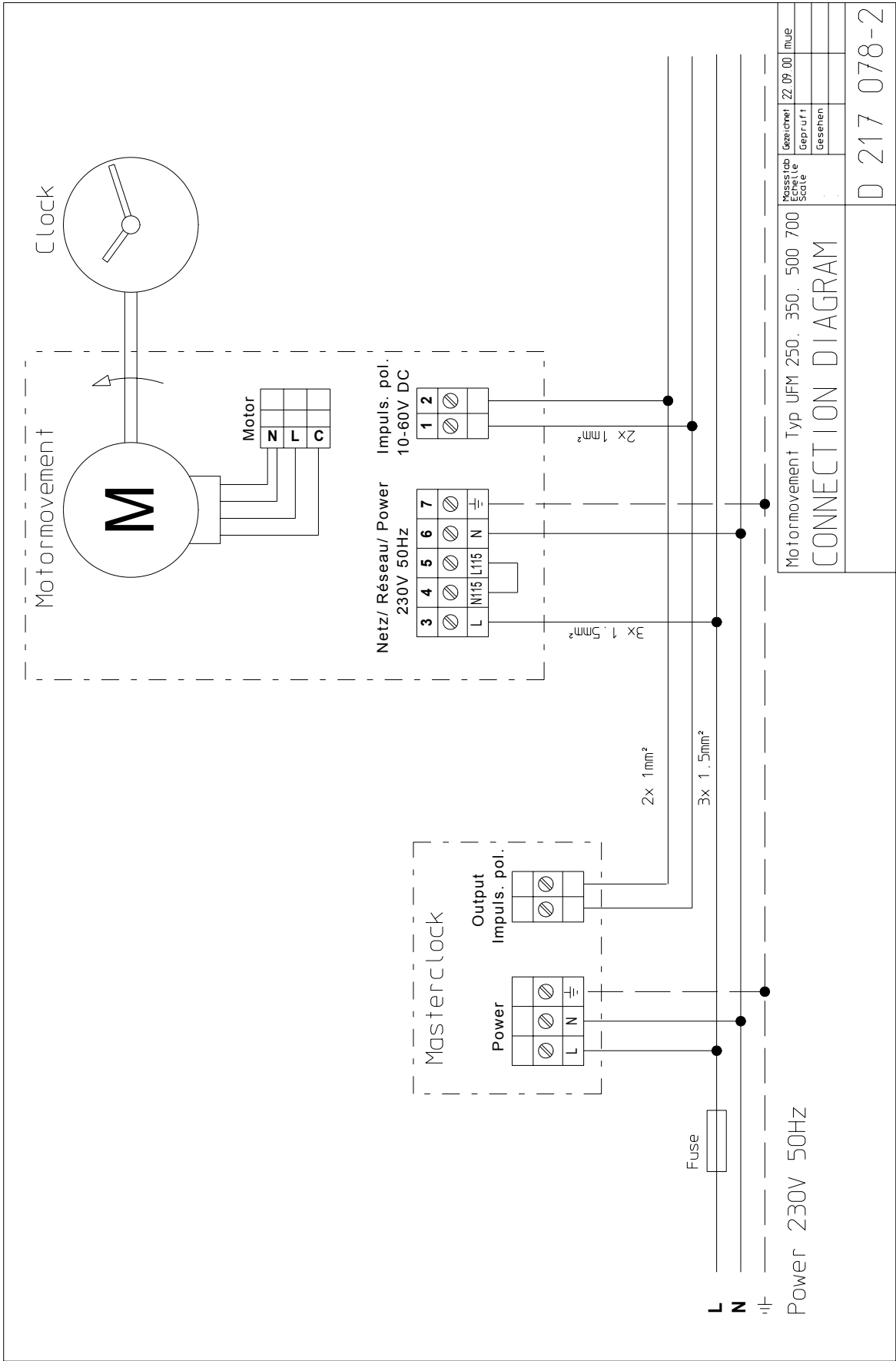


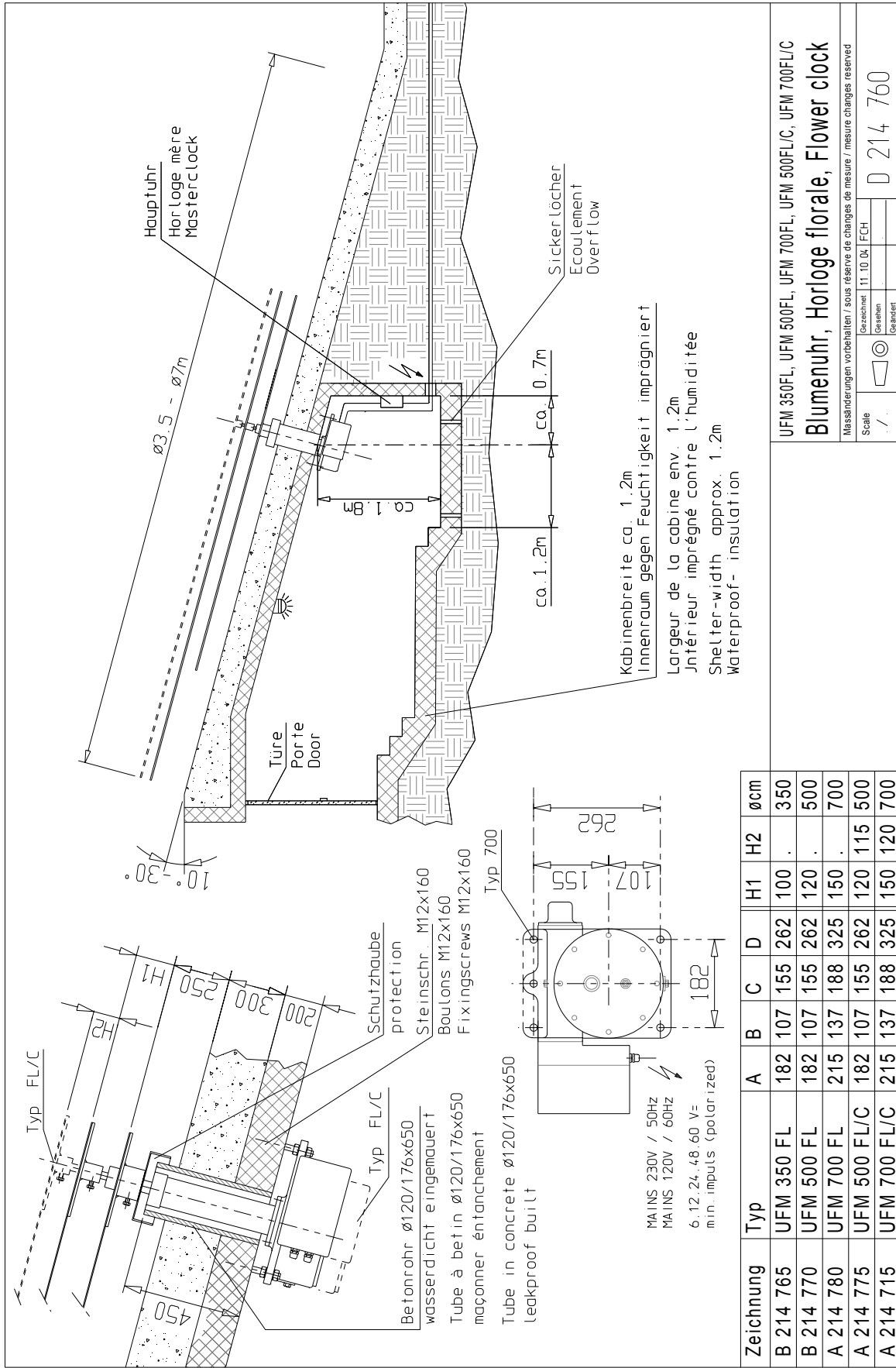
Polarized  
 min. impulses  
 10-60 VDC

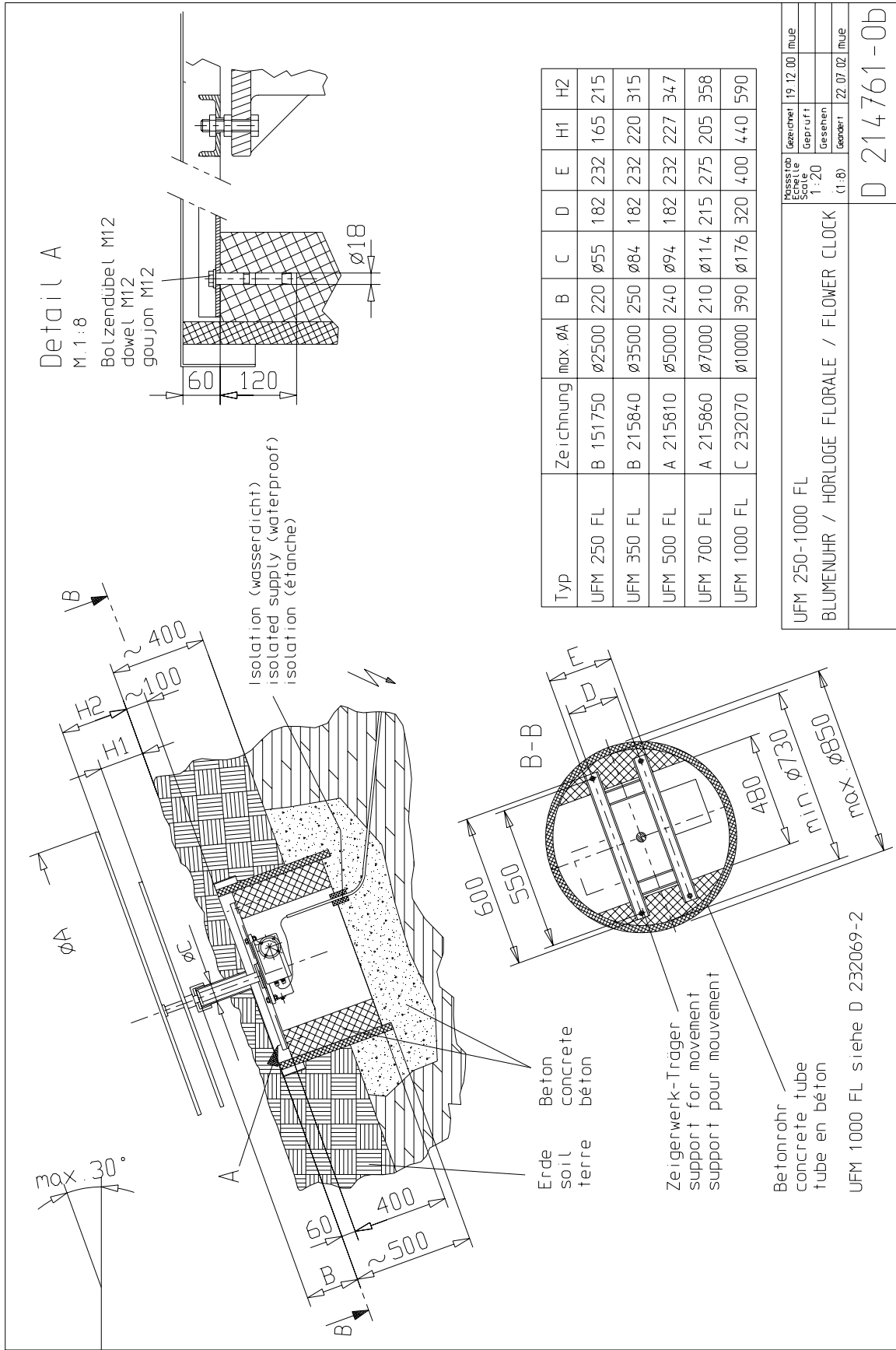
Power  
 230V 50Hz  
 230V 60Hz  
 115V 60Hz

UFM 250. 350. 500. 700 /C movement sec. syn Operation instruction	Massstab Echelle Scale	Gezeichnet Geprüft Gesehen Geändert	25.09.00    	mue
			D 219123Ed	10/10





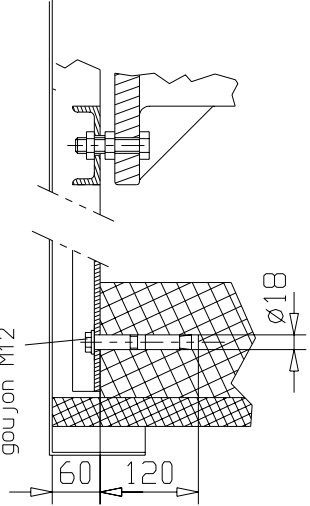




Detail A

M.1:8

Bolzendübel M12  
dowel M12  
goujon M12



isolation (wasserdicht)  
isolated supply (waterproof)  
isolation (étanche)

Typ	Zeichnung	max. ØA	B	C	D	E	H1	H2
UFM 250 FL	B 151750	Ø2500	220	Ø55	182	232	165	215
UFM 350 FL	B 215840	Ø3500	250	Ø84	182	232	220	315
UFM 500 FL	A 215810	Ø5000	240	Ø94	182	232	227	347
UFM 700 FL	A 215860	Ø7000	210	Ø114	215	275	205	358
UFM 1000 FL	C 232070	Ø10000	390	Ø176	320	400	440	590

UFM 250-1000 FL  
BLUMENUHR / HORLOGE FLORALE / FLOWER CLOCK

Gezeichnet	19.12.00	mue
Geprüft		
Gelesen	1:20	
Geändert	(1:8)	22.07.02
D 214761-0b		mue

Erde  
soil  
terre

Beton  
concrete  
béton

Zeigerwerk-Träger  
support for movement  
support pour mouvement

Betonrohr  
concrete tube  
tube en béton

UFM 1000 FL siehe D 232069-2