

ANALOG CLOCK

FLEX

VARIABLE WITH CLASS

The Swiss Flex analog clock has been ticking, accurate to the millisecond, since 1999. With a variety of technical variations and options, it is suitable for nearly every space and purpose.



THE BENEFITS OF THE FLEX ANALOG CLOCK

The name Flex stands for excellent flexibility and countless possibilities. Flex adapts to any underlying conditions, whether they relate to technical operating requirements, time codes, installation options or design, and meets requirements with precision.



CUSTOMIZABLE

Installation and operation function smoothly, because technology and design adapt to the application – even when integrated into existing systems.



SELECTABLE TIME CODE

The Flex supports all common synchronization and input types. This also allows it to be well integrated into existing systems.



ROBUST CONSTRUCTION

Flex is a long-term investment. The solid Swiss native is sophisticated, time-tested over many years, durable, and easy to maintain.



HOUSING & INSTALLATION

From shatterproof glass for the gymnasium to hygienic chrome steel covers for hospitals – Flex offers the right housing and several installation options.



SUPPORT

From planning to installation and during operation and maintenance – you can get answers to your questions and, if needed, support from our specialists.



Factory
FLEX Ø30, one-sided, illuminated, dial 000



School
FLEX Ø30, one-sided, dial 120, in concrete case (BD)



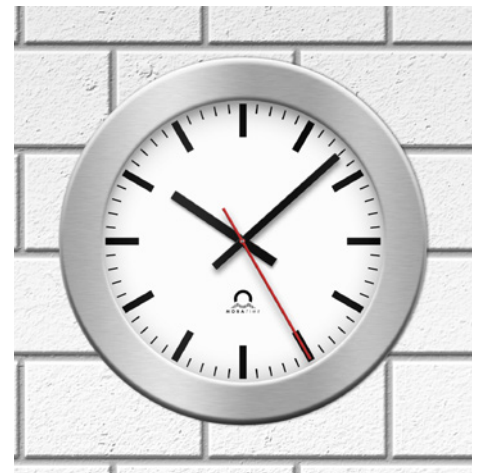
Gymnasium
FLEX Ø30, one-sided, dial 120, impact-resistant cover glass and housing, with mounting clips (MK)



Hospital
FLEX Ø30, two-sided, dial 160, with 50cm ceiling set (DS.50)



Library
FLEX Ø30, two-sided, dial 210, with wall and ceiling set (WS)



Office
FLEX Ø30, one-sided, dial 200, in mounting box (ED)



Airport
FLEX Ø50, two-sided, dial 210, with ceiling set Ø50 (DS)



Train station
FLEX Ø60, two-sided, dial 120, with ceiling set Ø60-80 (DS)



Custom
FLEX Ø30, one-sided, with customer-specific dial and hands, in mounting box (ED)

6 STEPS TO YOUR FLEX

To make sure your Flex solution meets all your requirements, you can assemble the components individually. You can also choose from optional parts. Configure the perfect Flex, suited to rooms and general conditions. Naturally, our experts will be happy to help.

1. How big does your Flex need to be?

SIZE

The Flex is available in six dial diameters. Please note the recommended optimal reading distance.

Ø	READING DISTANCE	
	A	B
25cm	20m	25m
30cm	25m	30m
40cm	35m	45m
50cm	45m	55m
60cm	55m	65m
80cm	75m	85m

A: dials 120, 160, 200, 210, 230, 310, 360, 000
 B: dials 300, 315

ILLUMINATED FLEX CLOCKS

Illumination

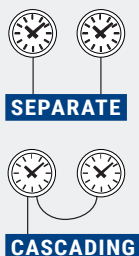
See examples on page 3. Clocks with the ZB 000 face (see page 6, step 4) can be outfitted with an LED ring. To do so, replace the standard abbreviation FLO in the order code with FL2. The following options with illumination are possible:

TYPE	Ø CM		MOVEMENT		HOUSING
FL.2.	30	.R1.	M00 = SAM 40	.000.0.	00 = Standard
	40		M21 = SEM 40		01 = Chrome steel V2A
			N20 = SAN 40		
			N21 = SEN 40		

TWO-SIDED FLEX

Cascading

For two-sided clocks, two identical one-sided clocks with separate synchronization and power supply are usually used. If you use cascading, the clocks' functions can be connected directly to each other. Cascading is possible with the following technical combinations:



PRIMARY MOVEMENT	SECONDARY MOVEMENT	Ø CM	INPUT	SYNCHRONIZATION
SAN 40/SEN 40	SAN 40/SEN 40	25-40	PoE	NTP
NBU 190	NBU 190	50-80	24V/PoE	NTP
FU 192	BU 192	50-80	3.6V Lithium battery Option: 230V	DCF
GU 192 V2	BU 192	50-80		GPS
QU 192	BU 192	50-80		Quartz



2.

Would you like the one-sided or the two-sided version?

SHAPE

For the two-sided Flex solution, you can order two identical Flex models and the corresponding installation set (see page 9)

3.

The Flex analog clock offers a variety of time code variants. Pick yours:

TIME CODE

Code	Time code	Ø	Power supply	Hands	Movement	Max. power consumption	Accuracy (typically)	Loss of signal
MOBALINE SELF-SETTING: MXX								
M00	MOBALine	25-40	MOBALine	h/m	SAM 40	< 6mA @ 17VAC (0.1W)	< +/- 100ms/d	12:00 position after 24 hours
M21	MOBALine	25-40	MOBALine	h/m/s	SEM 40			
M15	MOBALine	50-80	MOBALine	h/m	SAM 100	< 20mA @ >17VAC (0.34W)	< +/- 100ms/d	MOBALine: 12:00 position after 24 hours
M17	MOBALine	50-80	MOBALine	h/m/s	SEM 100	< 30mA @ >17VAC (0.51W)	< +/- 100ms/d	DCF active: 12:00 position after 7 days
NTP (LAN) SELF-SETTING: NXX								
N20	NTP	25-40	PoE	h/m	SAN 40	PoEclass 1: <1.9W ⁵ / <3.8W ⁶	< +/-50 ms/d	12:00 position after 24 hours
N21	NTP	25-40	PoE	h/m/s	SEN 40			
N10	NTP	50-80	PoE	h/m	NBU 190 PoE	PoEclass 2: <1.6W ⁵ / <3.2W ⁶	< +/-50 ms/d	12:00 position after 24 hours
N12	NTP	50-80	PoE	h/m/s	NBU 190 S PoE			
N00	NTP	50-80	230V (24VDC)	h/m	NBU 190 24 + PS24	< 60mA @ 24VDC (<1.44W)	< +/-50 ms/d	12:00 position after 24 hours
N02	NTP	50-80	230V (24VDC)	h/m/s	NBU 190 S 24 + PS24			
POLARIZED PULSES: IXX								
I00	Min. pulse	25-40	12-60V	h/m	NU 90k	-	-	Standstill
I01	Min. pulse	50-80	12-60V	h/m	NU 90m			
I03	Min. pulse	25-40	24V	h/m	NU 91k			
I04	Min. pulse	50-80	24V	h/m	NU 91m			
I20	Min. pulse	30-80	12-60V 45-265VAC	h/m	IBU 190 S	30mA @ 230VAC (<6.9W)	-	Standstill
I30	Sec. pulse	25-40	24-60V	h/m/s	SEI 40			
SERIAL: SXX								
S00	Serial	30-80	230V	h/m	SU 190 230	50mA @ 24VDC (<1.2W)	< +/- 100ms/d	12:00 position after 24 hours
S02	Serial	30-80	230V	h/m/s	SU 190 S 230	12mA @ 230VAC (<3W)		
IRIG/AFNOR: TXX								
T50	IRIG/AFNOR	30-80	230V	h/m	ATBU 190 230	10mA @ 230VAC (<2.3W)	< +/- 100ms/d	12:00 position after 24 hours
T52	IRIG/AFNOR	30-80	230V	h/m/s	ITBU 190 S 230			
WTD WIRELESS TIME DISTRIBUTION: RXX								
R75	WTD	25-30	2x AA battery	h/m	SAW 00			
R76	WTD	25-30	2x AA battery	h/m/s	SEW 00			
R77	WTD	25-30	12V	h/m	SAW 00 MPS	5mA @ 20VDC (0.1W)	< +/- 100ms/d	12:00 position after 24 hours
R78	WTD	25-30	12V	h/m/s	SEW 00 MPS	15mA @ 6VDC (<0.1W)		
R79	WTD ¹	40-80	Lithium battery	h/m	BU 192 + RU		< +/- 100ms/d	12:00 position after 7 days
R85	WTD ¹	40	230V (24VDC)	h/m	SAM 40 + RM + PS24	230VAC (<18W)	< +/- 200ms/d	12:00 position after 24 hours
R86	WTD ¹	40	230V (24VDC)	h/m/s	SEM 40 + RM + PS24			
R87	WTD ¹	50-80	230V (24VDC)	h/m	SAM 100 + RM + PS24	230VAC (<18W)	< +/- 200ms/d	12:00 position after 24 hours
R89	WTD ¹	50-80	230V (24VDC)	h/m/s	SEM 100 + RM + PS24			
DCF 77 / MSF: RXX								
R21	DCF 77 ²	25-40	AA battery	h/m/s	FWUt		< +/- 100ms/d	12:00 position after 7 days
R25	DCF 77 ²	50-80	Lithium battery	h/m	FU 192		< +/- 100ms/d	12:00 position after 7 days
R32	MSF 60 ²	50-80	Lithium battery	h/m	BU 192 + AM 192		< +/- 100ms/d	12:00 position after 7 days
R00	DCF / MSF ³	30-80	230V	h/m	BU 190 230	230VAC (<3W)	< +/- 100ms/d	12:00 position after 7 days
R03	DCF / MSF ³	30-80	230V	h/m/s	BU 190 S 230			
GPS: RXX								
R50	GPS (mouse antenna)	50-80	Lithium battery	h/m	GU 192 V2		< +/- 200ms/d	12:00 position after 53 days
R60	GPS ⁴	30-80	230V	h/m	BU 190 230 + PS24	230VAC (<18W)	< +/- 100ms/d	12:00 position after 7 days
R62	GPS ⁴	50-80	230V	h/m/s	BU 190 S 230 + PS24			
QUARTZ: QXX (ALL WITH UNICAST AND MULTICAST)								
Q21	Quartz	25-40	AA battery	h/m/s	DQt		< +/- 5min/y	-
Q01	Quartz	30-80	Lithium battery	h/m	QU 192		< +/- 4min/y	-

¹ with receiver interface ² internal antenna (not possible with BW or DD housing) ³ without antenna, external antenna required
⁴ coded for GPS 4500 (not included) ⁵ single-sided clock ⁶ cascaded double-sided clock

For special clockwork/time code variants, see document TE-800800 at www.mobotime.com in the Customers section

4. Which dial design do you like?

DIAL

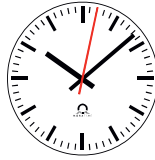
The Flex offers the following standard designs. For custom variants, material requests, logo prints, and finishes, please contact our customer service.



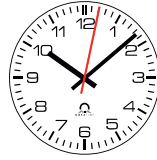
dial 120



dial 160



dial 200



dial 210



dial 230



dial 300



dial 310



dial 315



dial 360



dial 000 (LED)

5. Which type of glass is the right one?

GLASS TYPE

Mineral glass (code 0)

Standard glass.

Ball-throw resistant (code 1)

Extra-stable, shockproof glass.

Polycarbonate (code 2)

Shatterproof. Ø30-40 only.

Plexiglas Resist (code 3)

Nearly indestructible and shatterproof.

Anti-reflection mineral glass (code 4)

Ø30 only.

6. Which housing type do you need?

HOUSING TYPE

FLEX Standard (code 00)

Standard housing.

Stainless steel V2A (code 01)

For applications with the highest hygienic requirements.

Steamtight (DD) (Code 02)

For steamy environments.

Ball-throw resistant (BW) (Code 03)

Combined with ball-throw resistant glass, a FLEX with this housing can really take a beating.

YOUR FLEX IS COMPLETE

You can now order your Flex and calculate the corresponding code. Enter the abbreviation for each component of your choice in the bright field and find your Flex code. It serves as the order code or as the foundation for further steps. The overview on page 8 shows whether your wishes are compatible.

My Flex clock		FL0.
1. Size	Ø cm	<input type="text"/>
2. Shape	Code	<input type="text" value="R1"/>
3. Time code	Code	<input type="text"/>
4. Dial	Code	<input type="text"/>
5. Glass type	Code	<input type="text"/>
6. Housing type	Code	<input type="text"/>
Sequence number	Code	<input type="text" value="0000"/>

Example order code



	1.	2.	3.	4.	5.	6.
FL	0.	30.	R1.	M21.	120.	0.
Flex	no illumination ¹	Ø 30cm	round, single-sided ²	movement SEM 40	dial 120	mineral glass
						standard housing
						sequence number ³
						0000

¹ see illumination information on page 4

² standard, cannot be changed; see double-sided clock information on page 4

³ The sequence number denotes special versions (e.g. clocks with a special dial). When ordering, please indicate the sequence number with 0000 (standard version); we will adapt this for any special version. Special versions can be reordered at any time stating the sequence number.

STANDARDS

Depending on the movement used in your Flex clock, the following standards apply:

MOVEMENT(S)	STANDARDS
SAM 40 SEM 40 SAN 40 SEN 40	2011/65/EU / 2014/30/EU / 2014/35/EU / 2016/797/EU / EN 50121-4 / EN 60950-1 / EN 61000-6-2 / EN 61000-6-3
SAM 100 SEM 100	2011/65/EU / 2014/30/EU / 2014/35/EU / 2016/797/EU / EN 50121-4 / EN 60950-1 / EN 61000-6-2 / EN 61000-6-3
NBU 190 PoE NBU 190 S PoE NBU 190 24 NBU 190 S 24	2011/65/EU / 2014/30/EU / 2014/35/EU / 2016/797/EU / EN 50121-4 / EN 60950-1 / EN 61000-6-2 / EN 61000-6-4
NU 90k NU 90m NU 91k NU 91m	2011/65/EU / 2014/30/EU / EN 61000-6-2 / EN 61000-6-3
IBU 190 S	2011/65/EU / 2014/30/EU / 2014/35/EU / 2016/797/EU / EN 50121-4 / EN 60950-1 / EN 61000-6-3
SEI 40	2011/65/EU / 2014/30/EU / 2014/35/EU / EN 61000-6-2 / EN 61000-6-3
SU 190 230 SU 190 S 230	2011/65/EU / 2014/30/EU / 2014/35/EU / 2016/797/EU / EN 50121-4 / EN 60950-1 / EN 61000-6-1 / EN 61000-6-3
ATBU 190 230 ITBU 190 S 230	2011/65/EU / 2014/30/EU / 2014/35/EU / 2016/797/EU / EN 50121-4 / EN 60950-1 / EN 61000-6-2 / EN 61000-6-3 / IPPS
SAW 00 SEW 00 SAW 00 MPS SEW 00 MPS	2011/65/EU / 2014/30/EU / 2014/35/EU / EN 61000-6-2 / EN 61000-6-3
BU 192 FU 192 QU 192	2011/65/EU / 2014/30/EU / EN 61000-6-2 / EN 61000-6-3
BU 190 230 BU 190 S 230	2011/65/EU / 2014/30/EU / 2014/35/EU / 2016/797/EU / EN 50121-4 / EN 60950-1 / EN 61000-6-1 / EN 61000-6-3
GU 192 V2	2011/65/EU / 2014/30/EU / 2016/797/EU / EN 50121-4 / EN 61000-6-2 / EN 61000-6-3
DQt	2011/65/EU / 2014/30/EU / EN 55024 / EN 55032
FWUt	1999/5/EC / 2011/65/EU / EN 60950-1 / DIN EN 300-300 / DIN EN 300-330-2 / ETSI EN 301 489-1 / ETSI EN 301 489-3

All Flex clocks are compliant with CE and REACH.

IS IT COMPATIBLE?

The following overview shows which components can be combined. Please check this before ordering.

Ø		Ø25	Ø30 normal	Ø30 steamtight	Ø30 ball-throw resistant	Ø40 normal	Ø40 steamtight	Ø40 ball-throw resistant	Ø50 normal	Ø50 steamtight	Ø50 ball-throw resistant	Ø60 normal	Ø60 steamtight	Ø60 ball-throw resistant	Ø80 normal	Ø80 steamtight	Ø80 ball-throw resistant
MOBALine	M00 / M21	•	•	•	•	•	•	•									
	M15								•	•	•	•	•	•	•	•	•
	M17								①	•	•	•	•	•	•	•	•
NTP	N00 / N10								•	•	•	•	•	•	•	•	•
	N02 / N12								①	•	•	•	•	•	•	•	•
	N20 / N21	•	•	•	•	•	•	•									
Pulse	I00 / I03 / I30	•	•	•	•	•	•	•									
	I01 / I04								•	•	•	•	•	•	•	•	•
	I20		②	•	•	②	•	•	①	•	•	•	•	•	•	•	•
Serial	S00		①	•	•	①	•	•	•	•	•	•	•	•	•	•	•
	S02		②	•	•	②	•	•	•	•	•	•	•	•	•	•	•
IRIG/AFNOR	T50		①	•	•	①	•	•	•	•	•	•	•	•	•	•	•
	T52		②	•	•	②	•	•	•	•	•	•	•	•	•	•	•
WTD	R75 / R76 / R77 / R78	④	•	•	•												
	R79					①	•	•	•	•	•	•	•	•	•	•	•
	R85 / R86					•											
	R87								•	•	•	•	•	•	•	•	•
	R89					②	•	•	①	•	•	•	•	•	•	•	•
DCF 77/MSF	R00		①	•	•	①	•	•	•	•	•	•	•	•	•	•	•
	R03		②	•	•	②	•	•	①	•	•	•	•	•	•	•	•
	R21	④	•			•											
	R25 / R32								•	•	•	•	•	•	•	•	•
GPS	R50		①	•	•	①	•	•	•	•	•	•	•	•	•	•	•
	R60		①	•	•	①	•	•	•	•	•	•	•	•	•	•	•
	R62		②	•	•	②	•	•	•	•	•	•	•	•	•	•	•
Quartz	Q01		①	•	•	①	•	•	•	•	•	•	•	•	•	•	•
	Q21	④	•	•	•	•	•	•									
Dials	Dial 000		•	•	•	•	•	•									
	Dial 120	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	Dial 160	•	•			•											
	Dial 200	•	•	•	•	•	•	•									
	Dial 210	•	•	•	•	•	•	•									
	Dial 230	•	•	•	•	•	•	•									
	Dial 300	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	Dial 310	•	•	•	•	•	•	•									
	Dial 315								•	•	•	•	•	•	•	•	•
Cover glass	0 Standard	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•
	1 Ball-throw resistant	•	•	•		•	•	•	•	•		•	•		•	•	
	2 Polycarbonate		•			•											
	3 Plexiglas Resist				•			•						•			•
	4 Anti-reflection mineral glass		•														
Housing	00 Standard	•	•			•			•			•			•		
	01 Stainless steel V2A		•			•			•								
	02 Steamtight			•	•		•	•	•	•		•	•		•	•	
	03 Ball-throw resistant				•		•	•		•			•		•	•	
Accessories	Wall/Ceiling set	•	•			•											
	Ceiling suspension		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	Wall mounting ring		•			•											
	Mounting clips			•	•		•	•	•	•	•	•	•	•	•	•	•
	Mounting box		⑥														
	Concrete case		⑥			⑥											
Ø		25	30	30	30	40	40	40	50	50	50	60	60	60	80	80	80

- ① wide housing
- ② wide housing, domed glass
- ③ normal housing only
- ④ dials 200, 210 only

INSTALLATION VARIANTS

Single-sided installations



FL.Ø.WM

Wall mounting ring
Snap-on installation for single-sided clocks.
Ø 25/30/40



FL.Ø.MK

Mounting clips
Ball-throw resistant wall fixation for single-sided clocks.
Ø 25/30/40/50/60/80



FL.30.ED

Mounting box
Flush-mounted box made of stainless steel.
Ø 30



FL.Ø.BD

Concrete case
Made of wood, with steel front ring and plexiglass cover.
Ø 30/40

Double-sided installations

FL.Ø.BA

Blind cover
Rear cover of suspended single-sided clocks, made of steel.
Ø 30/40



FL.Ø.DF / FL.Ø.DF.V2A

Ceiling flange
Alternative flange for ceiling set Ø25-40, made of steel.
Ø 25/30/40



FL.Ø.WS / FL.Ø.WS.V2A

Wall and ceiling set
Snap-on installation. Made of steel.
Ø 25/30/40



FL.Ø.DS.LL / FL.Ø.DS.LL.V2A

Ceiling set Ø25-40
Snap-on installation. Ring made of steel, pipe and flange made of plastic. LL = 50/100cm, other lengths on request.
Ø 25/30/40



FL.50.DS

Ceiling set Ø50
Ceiling suspension with clamping ring, made of steel.
Ø 50



FL.Ø.DS

Ceiling set Ø60-80
Ceiling suspension with clamping, ring made of steel, for clocks Ø60-80 and clocks with BW/DD housing.
Ø 60/80

TECHNICAL DATA

TECHNICAL DATA	FLEX
Housing	Standard/BW/DD: aluminium V2A: stainless steel V2A
Operating conditions	-30 to +70 °C (0 to 95% relative humidity, non-condensing) SAW 00/SEW 00/SAW 00 MPS/SEW 00 MPS: 0 to +50 °C (0 to 90% relative humidity, non-condensing)
Housing color	Standard/BW/DD: RAL 9001 V2A: unpainted
Degree of protection	IP 30 (DD: IP 65)

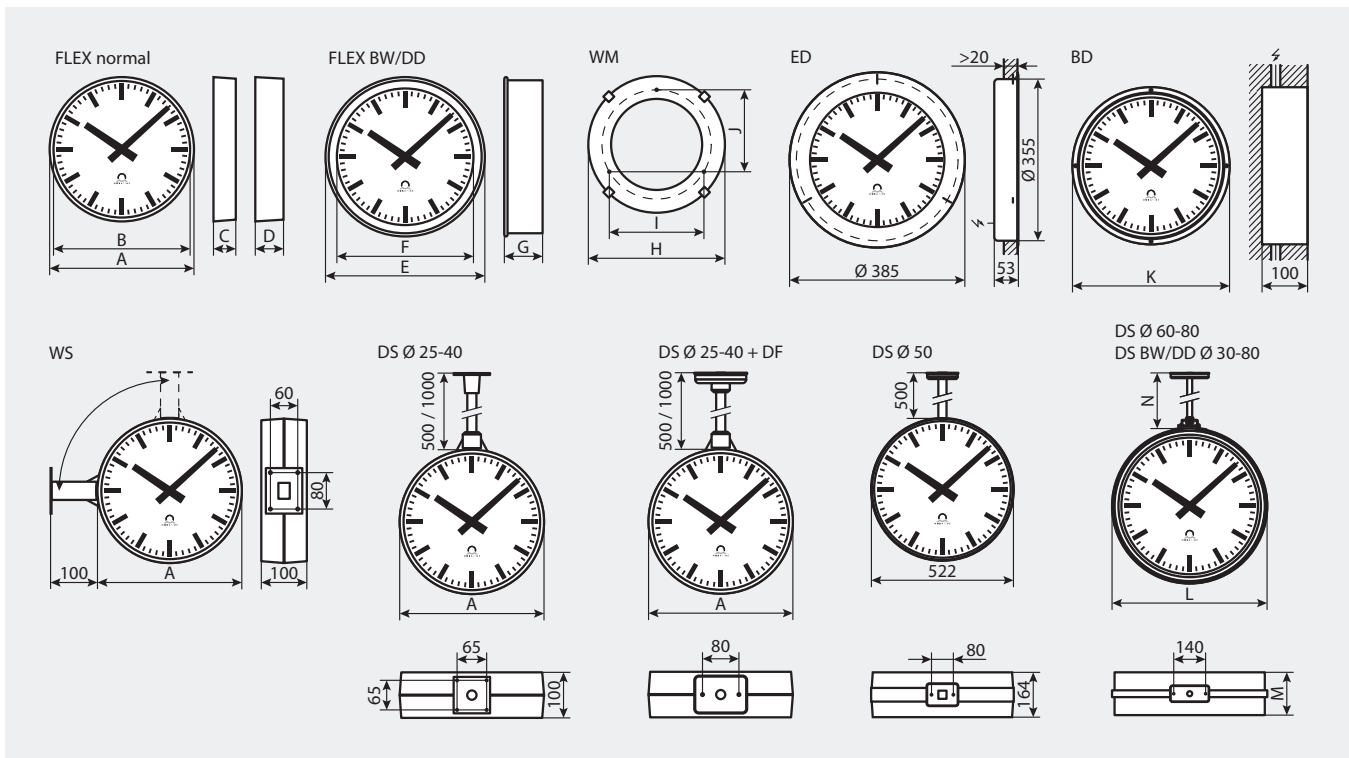
Ø	FLEX NORMAL					FLEX BW/DD				WM			BD	DS		
	A	B	C	D	Weight	E	F	G	Weight	H	I	J	K	L	M	N
25	265	253	49	62*	0,8	-	-	-	-	252	190	154	-	-	-	-
30	317	303	49	62*	1,0	350	300	84	2,5	300	208	180	345	352	168	300
40	417	403	49	62*	1,7	462	395	86	4,2	400	285,8	247,5	447	464	172	400
50	520	504	74	92**	3,2	564	500	92	7	-	-	-	-	566	184	500
60	680	600	94	-	6,5	680	600	94	11	-	-	-	-	682	188	600
80	895	790	108	-	14	895	790	108	22	-	-	-	-	897	216	800

Weights for accessory parts on request. All dimensions in mm and weights in kg.

A/B = normal housing; A/C = broad housing; D/E = BW/DD housing

* for series 100, 190, and 192 clockworks

** for series 100 and 190 clockworks with second hand



*Do you have any questions?
We are happy to help.*

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