

## DIGITAL OUTDOOR CLOCK

# ECO-M-DSC

*The ECO-M-DSC is a general-purpose digital clock of contemporary design and slim appearance. Its robust housing and bright display make it ideal for both outdoor and indoor applications where readability from large distances is desired.*



10:08

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# FEATURES

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## DISPLAY

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- red LED display
- continuous display of time, date, temperature or stopwatch
- alternating display of time, date, calendar week, temperature, humidity, and atmospheric pressure, with customizable intervals from 0-60 seconds for each display
- manual or sensor-controlled automatic display brightness adjustment
- wide viewing angle (160°)

### Time

- 12/24 hour cycle
- with or without leading zero
- AM/PM indication for 12 hour cycle

### Date

- with or without leading zero

### Temperature

- in °C or °F

## HOUSING

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- clock frame made of powder-coated aluminium sheets in black, any RAL color on request
- anti-reflection front cover made of plexiglass, including a filter layer for optimal readability
- mounting on tilting console for easy installation and time-saving maintenance

## STOPWATCH

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- counting up from zero, up to 24 hours
- counting down from a predefined time value, with stop at zero, automatic restart from predefined time or counting into negative values
- display of intermediate time values, display "freeze"
- counting in steps of 1 day, 1 minute, 1 second
- or 1/100 seconds
- possibility to connect another display unit
- possibility of parallel switching over into the time and date or temperature display mode

## CONFIGURATION

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- setting of the clock parameters, as well as time, date, and stopwatch control by means of push buttons or IR/RF remote controller; stopwatch can additionally be controlled via big red button

## SYNCHRONIZATION

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- autonomous operation with internal quartz base
- accuracy  $\pm 0.1$  s/day at constant temperature – software trimming
- possibility to configure any time zone
- NTP multicast or unicast synchronization, powered over Ethernet (PoE) or mains
- MOBALine, MOBATIME serial code, impulse line, DCF, DCF-IMP (time code, DCF active), or IRIG-B, mains powered
- GPS signal
- RTC backup by means of supercapacitor (lithium battery on request)

## NETWORK

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- IPv4 and IPv6 support
- DHCPv4, DHCPv6 / manual configuration of the clock parameters or configuration via web interface
- DHCPv4, DHCPv6 private strings allow easy configuration of clock parameters when connected to LAN

# ORDER KEY

## 1 FORMAT

Digit height	10:08	10:08:25	Reading distance
100 mm	100.4	100x.6	40–60 m
180 mm	180.4	180x.6	70–100 m
190 mm	190.4	190x.6	75–115 m

## 2 INSTALLATION



**WALL MOUNTING**  
N.N (single-sided)



**CEILING SUSPENSION**  
N.S (single-sided)  
D.S (double-sided)

## 3 SYNCHRONIZATION

CODE	SYNCHRONIZATION	POWER SUPPLY
NTP	NTP	Mains
PoE	NTP <sup>1</sup>	PoE
PoE+	NTP <sup>2</sup>	PoE+
WiFi	WiFi (2.4 GHz), NTP	Mains
WiFi5	WiFi (2.4/5.0 GHz), NTP	Mains
GPS	Integrated GPS receiver with external magnetic antenna	Mains
LGC	MOBALine / DCF / IRIG-B / (un)polarized 24 VDC pulses	Mains

<sup>1</sup> only DSC 100.4, with red / yellow display

<sup>2</sup> only DSC 100, 180.4 and 190.4, with red / yellow display

## 4 HOUSING COLOR



**black**  
RAL9005

**RALxxxx**  
on request

## 5 OPTIONS

CODE	OPTION
RS485	RS-485 interface
VDC	Power supply via 18–56 VDC
VDISP	Stromversorgung gemäss Anzeigefarbe
BAT	Lithium battery
REL	Internal relay
RP	Redundant power supply (PoE + 24 VDC)

## 6 ACCESSORIES

CODE	OPTION
IR	infrared remote control
RF/IR	long-range radio frequency/infrared remote control with 38 buttons
RF	long-range radio frequency remote control with 6 buttons (IP 54)
AD 650	DCF77 radio signal receiver
GNSS 4500	GNSS receiver including antenna
SK	keyboard for stopwatch control, 5m cable
SKH	stainless steel keyboard for clock and stopwatch control, 5m cable, handheld
SKF	stainless steel keyboard for clock and stopwatch control, flush mounting
SKW	stainless steel keyboard for clock and stopwatch control, wall mounting
TP 3m	temperature sensor, IP 66, 3m cable
TP 30m	temperature sensor, IP 66, 30m cable
TPH 1m	temperature and humidity sensor, IP 66, 1m cable
BRB10	big red button for stopwatch control
CB	Code Blue signal receiver, AC/DC input range 7–350 V
GPS-CE5	GPS extension cable, 5m
GPS-CE10	GPS extension cable, 10m
GPS-CE15	GPS extension cable, 15m
GPS-CE20	GPS extension cable, 20m

## ORDER CODE

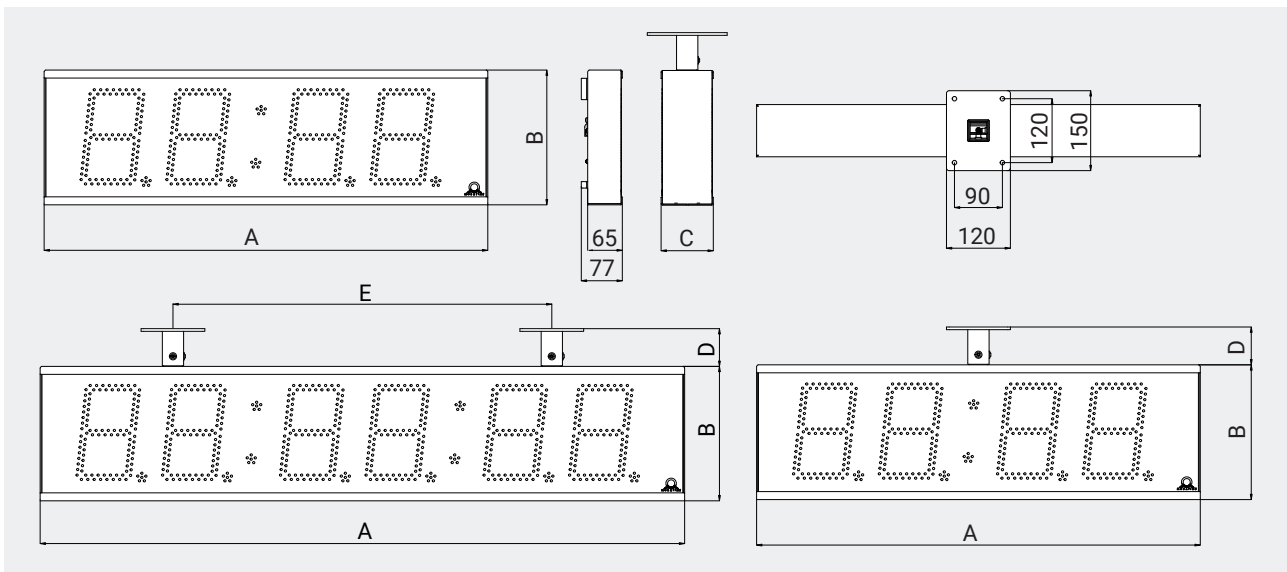
ECO-M-DSC . 1 . 2 . 3 . 4 . 5 . 6 .R.

Example: ECO-M-DSC.100.4.R.N.N.NTP.black

# TECHNICAL DATA

ECO-M-DSC		100.4	100x.6	180.4	180x.6	190.4	190x.6
Digit height (mm)		100	100	180	180	190	190
Display features		Time display in 12-hour or 24-hour format Alternating display of time, date and temperature <sup>1</sup> (in C° or F°) Automatic or manual display brightness adjustment Stopwatch (count up to 24 hours, countdown from set value, display of time intervals, freezing of display...) Stopwatch operation via push buttons, IR remote control					
Material		Housing: aluminum Cover glass: tempered mineral glass with anti-reflective foil					
Power supply	Mains	Standard: 100 – 240 VAC, 50 – 60 Hz VDC (on request): 18 – 56 VDC (18 – 40 VAC)					
	PoE SS	PoE (IEEE 802.3af)	PoE+ (IEEE 802.3at)	PoE+ (IEEE 802.3at)	-	-	-
	PoE DS	PoE+ (IEEE 802.3at)	-	-	-	-	-
Power consumption (VA)	SS	15	22	23	33	23	33
	DS	29	42	44	66	44	66
Quartz accuracy at 20 °C		± 0.1 seconds/day without synchronization (after 24 hours of synchronization at constant temperature)					
RTC backup/ quartz-based time maintenance	Mains power supply	from lithium battery: > 2 years (without power supply) / > 6 years (with power supply)					
	PoE power supply	no time maintenance					
Temperature precision		-25 to +85 °C: ±0.5 °C, -50 to +125 °C: ±2.0 °C					
Operating conditions		-25 to +60 °C (0 to 95% relative humidity, non-condensing)					
Degree of protection		IP 65					
Standards		2011/65/EU / 2014/30/EU / 2014/35/EU / EN 50121-4 / EN 55022 / EN 55024 / EN 60950-1					
Weight (kg)	SS (N.N/N.S)	4.3	4.9	6.4	8.9	6.4	8.9
	DS (D.S)	6.9	7.6	9.7	13.5	9.7	13.5
Dimensions (in mm, see below)	A	533	753	833	1213	833	1213
	B	193	193	253	253	253	253
	C	SS: 65 / DS: 98					
	D	70/100/300/500					
	E	-	-	-	713	-	713

SS = single-sided; DS = double-sided  
<sup>1</sup> only with external temperature sensor



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*Have questions?  
 We are happy to help.*

Moser-Baer AG | Spitalstrasse 7 | CH-3454 Sumiswald  
 Tel. 034 432 46 46 | Fax 034 432 46 99  
 info@mobatime.com | www.mobatime.com

