

## DIGITAL INDOOR CLOCK

# ECO-M-DC

*The ECO-M-DC series are digital clocks in 7 segment LED technique at an economical price, designed in an elegant and slim case, for time, date or alternating time/date display.*



# FEATURES

## 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

- elegant and slim clock frame made of aluminium sheets in black or silver, any RAL color on request
- anti-reflection front cover made of plexiglass, including a filter layer for optimal readability; detachable for access to push buttons

## STOPWATCH

- 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

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

## SYNCHRONIZATION

- autonomous operation with internal quartz base
- accuracy ±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, impulse line, DCF or IRIG-B, mains powered
- RTC backup by means of supercapacitor (lithium battery on request)

## NETWORK

- 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	10:08:25	Reading distance
57 mm	57.4	57.6	57x.6	25–30 m
75 mm	75.4	75.6	75x.6	30–40 m
100 mm	100.4	100.6	100x.6	40–60 m

## 2 DISPLAY COLOR



## 3 INSTALLATION



## 4 SYNCHRONIZATION

CODE	SYNCHRONIZATION	POWER SUPPLY
NTP	NTP	Mains
PoE	NTP	PoE
WiFi	WiFi (2.4 GHz), NTP	Mains
WiFi5	WiFi (2.4/5.0 GHz), NTP	Mains
LGC	MOBALine / DCF / IRIG-B / (un)polarized 24 VDC pulses	Mains

## 5 HOUSING COLOR



## 6 OPTIONS

CODE	OPTION
RS485	RS-485 interface
VDC	Power supply via 18–56 VDC
BAT	Lithium battery
RP	Redundant power supply (PoE + 24 VDC)
SL	SMD diode display

## 7 ACCESSORIES

CODE	OPTION
IR	infrared remote control
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

## ORDER CODE

1      2      3      4      5      6      7

ECO-M-DC .

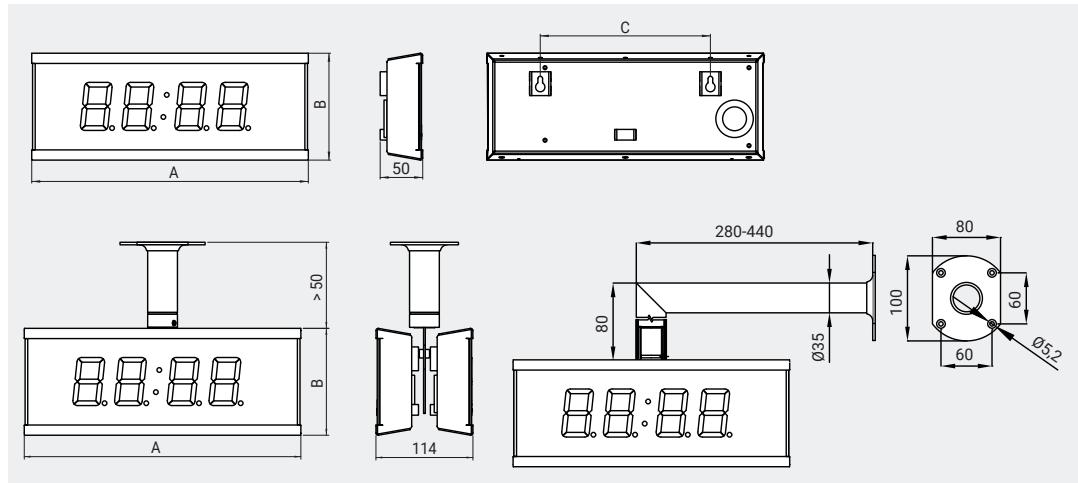
Example: ECO-M-DC.57.4.R.N.N.NTP.black

# TECHNICAL DATA

ECO-M-DC		57.4	57.6	57x.6	75.4	75.6	75x.6	100.4	100.6	100x.6	
Digit height (mm)		57	57/38	57	75	75/57	75	100	100/57	100	
Display features		Time display in 12-hour or 24-hour format Alternating display of time, date and temperature (in C° or F°, with external temperature sensor connected) <sup>1</sup> Automatic or manual display brightness adjustment Stopwatch (count up to 24 hours, countdown from set value, display of time intervals, freezing of display...) <sup>1</sup> Stopwatch operation via push buttons, IR remote control <sup>1</sup>									
Material		Housing: aluminum Cover glass: anti-reflective plexiglass									
Power supply		Standard: 100 – 240 VAC, 50 – 60 Hz VDC (option, not for PoE/PoEclass version): 24 VDC PoE version: PoE (IEEE 802.3af class 0)									
Power consumption (VA)	SS	7	8	8	7	8	8	7	8	10	
	DS	11	16	16	11	16	16	11	16	18	
	SS PoE	7	8	8	7	8	8	7	8	10	
	DS PoE	11	15	15	11	15	15	11	15	15	
Quartz accuracy at 20 °C		± 0.1 seconds/day without synchronization (after 24 hours of synchronization at constant temperature)									
RTC back-up/quartz-based time maintenance	Mains power supply	from lithium battery: > 2 years (without power supply) / > 15 years (with power supply)									
	PoE power supply	no time maintenance (up to 12 hours from SuperCap on request)									
Temperature precision		-25 to +85 °C: ±0.5 °C, -50 to +125 °C: ±2.0 °C									
Operating conditions		-5 to +55 °C (0 to 95% relative humidity, non-condensing)									
Degree of protection		IP 54									
Standards		2002/96/EC / 2011/65/EU / 2014/30/EU / 2014/35/EU / EN 50121-4 / EN 55022 / EN 55024 / EN 60950-1									
Weight (kg)	SS	0.9	1.2	1.3	1.4	1.9	2.1	1.9	2.6	2.8	
	DS	2	2.5	2.6	3	4	4.4	4	5.4	5.9	
Dimensions (in mm, see below)	A	325	405	435	395	490	540	520	610	725	
	B	126	126	126	143	143	143	176	176	176	
	C	200	300	320	270	330	360	400	450	540	

SS = single-sided; DS = double-sided

<sup>1</sup> only with option E



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- 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

- clock housing made of black ABS plastic
- anti-reflection front cover made of plexiglass, including a filter layer for optimal readability
- push buttons on the back of the housing

## STOPWATCH

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

## SYNCHRONIZATION

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- accuracy ±0.1 s/day at constant temperature – software trimming
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100 mm	100.4	100.6	100x.6 <sup>1</sup>	40–60 m

<sup>1</sup> only available with red display

## 2 DISPLAY COLOR



R red      A yellow      G green      PG pure green      B blue      W white

## 3 INSTALLATION



### WALL MOUNTING

N.N (single-sided)



### CEILING SUSPENSION

N.S (single-sided)

D.S (double-sided)



### WALL BRACKET MOUNTING

N.B (single-sided)

D.B (double-sided)

## 4 SYNCHRONIZATION

CODE	SYNCHRONIZATION	POWER SUPPLY
NTP	NTP	Mains
PoE	NTP <sup>1</sup>	PoE
WiFi	WiFi (2.4 GHz), NTP	Mains
WiFi5	WiFi (2.4/5.0 GHz), NTP	Mains
LGC	MOBALine / DCF / IRIG-B / (un)polarized 24 VDC pulses	Mains

## 5 OPTIONS

CODE	OPTION
VDC	Power supply via 18–56 VDC
RP	Redundant power supply (PoE + 24 VDC)
SL	SMD diode display
IP 32	IP 32 safety rating

## 6 ACCESSORIES

CODE	OPTION
IR	infrared remote control
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

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ECO-DC . . . . . . . . . .

Example: ECO-DC.57.4.R.N.N.NTP

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Digit height (mm)		57	57/38	57	75	75/57	75	100	100/57	100	
Display features		Time display in 12-hour or 24-hour format Alternating display of time, date and temperature (in C° or F°, with external temperature sensor connected) <sup>1</sup> Automatic or manual display brightness adjustment Stopwatch (count up to 24 hours, countdown from set value, display of time intervals, freezing of display...) <sup>1</sup> Stopwatch operation via push buttons, IR remote control <sup>1</sup>									
Material		Housing: plastic Cover glass: anti-reflective plexiglass									
Power supply		Standard: 100 – 240 VAC, 50 – 60 Hz VDC (option, not for PoE version): 24 VDC PoE version: PoE (IEEE 802.3af class 0)									
Power consumption (VA)	SS	7	8	8	7	8	8	7	8	10	
	DS	11	16	16	11	16	16	11	16	18	
	SS PoE	7	8	8	7	8	8	7	8	10	
	DS PoE	11	15	15	11	15	15	11	15	15	
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		> 12 hours from supercapacitor									
Temperature precision		-25 to +85 °C: ±0.5 °C, -50 to +125 °C: ±2.0 °C									
Operating conditions		-5 to +55 °C (0 to 95% relative humidity, non-condensing)									
Degree of protection		IP 30; optionally IP 32 / IP 40									
Standards		2002/96/EC / 2011/65/EU / 2014/30/EU / 2014/35/EU / EN 50121-4 / EN 55022 / EN 55024 / EN 60950-1									
Weight (kg)	SS	0.75	1.15	1.25	1.25	1.6	1.8	1.8	1.9	2	
	DS	2	2.8	3	3	3.7	4.1	4.1	4.3	4.5	
Dimensions (in mm, see below)	A	341				580					
	B	122				180					
	C	44				53					
	D	292				520					
	E	104				150					
	F	275				520					
	G	99				120					
	H	52				60					

SS = single-sided; DS = double-sided

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