LED Digital Clocks

DC Series

The DC series covers elegant and very slim digital clocks in 7 segment LED technique for displaying time and date. They differ by character height of 57, 100 or 180 mm and by four or six-digit time and date display. As a standard function, the stopwatch is included in all models. A lot of various synchronization modes are available:

- "Stand-alone" operation with internal quartz or with external DCF time code receiver, mains powered
- NTP multicast or unicast (IP based) in Ethernet network, PoE or mains powered
- Slave clock operation in a wireless WTD system with a transmitter, which sends the time signal, mains powered
- Slave clock operation, controlled by self-setting MOBALine code, mains powered

Numerous executions and options make it possible to fulfill individual requests:

- LED display in red, green, blue or yellow
- Single- or double-sided clocks
- Aluminum housings, black- or silver-anodized or in any RAL color
- Wall mounting, ceiling suspension or wall bracket mounting

Options:

- Outdoor sensor for temperature display
- Interface for RS 232, RS 485, IRIG-B
- External buttons for stopwatch
- Infrared remote control for easy access to all functions, for the configuration as well as for the stopwatch function

DC Series – individual variants

Display Features

- Time display in four (HH:MM) or six digits (HH:MM^{SS}) or (HH:MM:SS), either 12 or 24 hours format
- Date display in four (DD.MM) or six digits (MM.DD^{YY}) or (DD.MM.YY)
- Alternating display of time, date and temperature, with adjustable time period for the different figures in the range of 0 – 60 sec
- Temperature display in °C or °F in combination with an external temperature sensor
- Digits of 57, 100 or 180 mm height, which corresponds to readability distance of up to 25, 40 or 70 m respectively
- Display available in red, green, pure green, blue or yellow
- Sensor controlled automatic or manual adjustment of the display brightness
- Possibility to set up MOBALine world time zones

Mechanics

- Anti-reflection front cover made of plexiglass including a filter layer for best readability over a wide viewing angle
- Elegant and very slim clock frame, made of black or silver anodized aluminum profiles. Any RAL color available on request
- Single- or double-sided execution for wall mounting, ceiling suspension or wall bracket mounting

- Easy installation and time-saving maintenance due to the back panel which is designed as a mounting plate, on which the clock can be snapped-on and secured with a screw

Synchronization

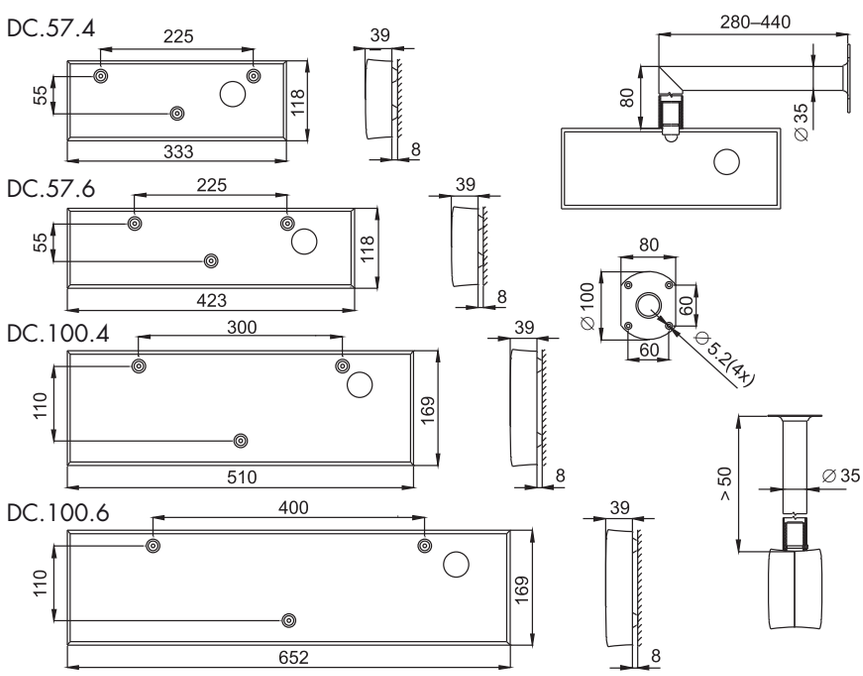
- Autonomous operation with internal quartz time base with programmable, automatic seasonal time change or with external DCF or GPS time signal receiver
- Slave clock operation: MOBALine (self-setting), NTP over Ethernet, WTD (Wireless Time Distribution, 868 MHz, NFS87-500)
  Option: IRIG-B, RS 232 / RS 485

Stopwatch

- Counting upwards from zero up to 24 hours
- Counting downwards from a specific value either with stop or with automatic restart at zero or counting into negative values
- Display of time intervals, freezing of display, cumulating of time intervals.
- Counting steps of 1 minute, 1 second or 1/100 seconds
- Operation via external buttons or IR remote control unit

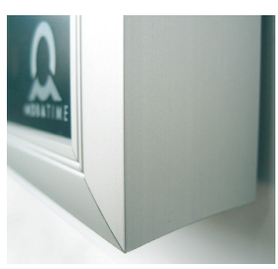
Configuration

Setting of the clock parameters by means of two push buttons on top of the clock frame or via IR remote control unit. For NTP version Telnet (DHCP/manual) or configuration via MOBA-NMS is possible. Remote firmware update through the LAN via TFTP.



All dimensions are in millimeters.
Additional 6 mm distance elements shipped with DC.

Rear cover with terminal board

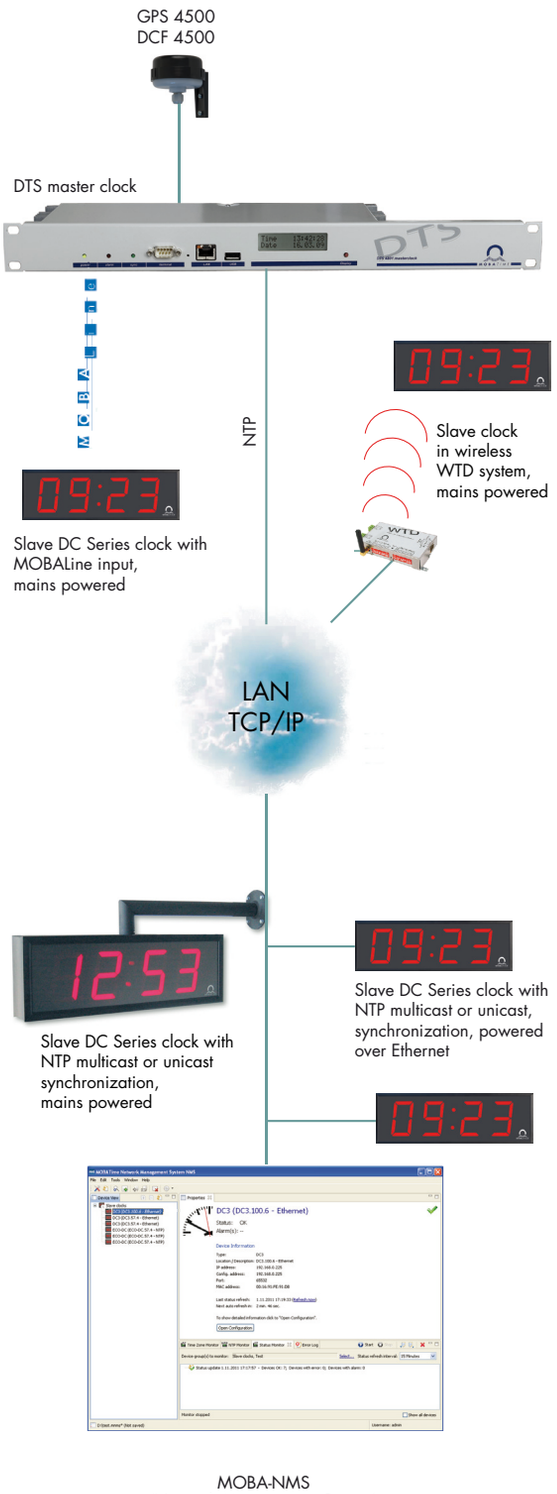


Frame detail

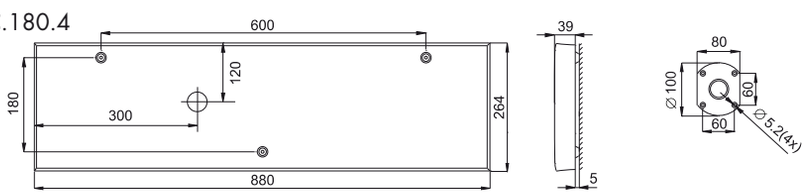
Order reference:

DC . 1 . 2 . 3 . 4 . 5 . 6 . 7 . 8

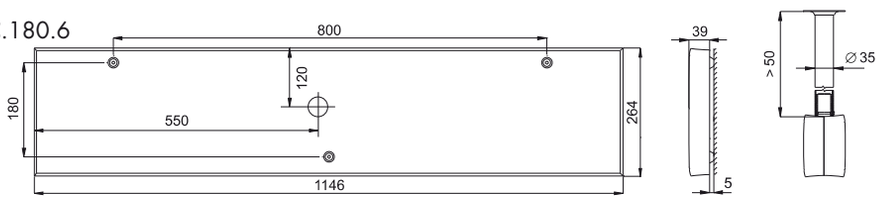
Digit height	1
57 mm (height of first 4 digits)	57
100 mm (height of first 4 digits)	100
100 mm (height of all 6 digits)	100x
180 mm (height of first 4 digits)	180
180 mm (height of all 6 digits)	180x
Number of digits	**2**
four digits (HH:MM)	4
six digits (HH:MM:SS)	6
Display color	**3**
red	R
pure green	PG
blue	B
yellow (amber)	A
green	G
Clock design	**4**
single-sided	N
double-sided	D
Mode of assembly	**5**
wall mounting (for single clock only)	N
ceiling suspension (conventionally 5, 10, 30, 50 cm)	S
wall bracket	B
Version	**6**
standard version - autonomous /MOBALine / (un)polarized pulses 24 VDC	STD
STD with built-in RS 232, RS 485 and IRIG-B interface, mains powered	SI
Ethernet version synchronized by NTP, mains powered	NTP
Ethernet version synchronized by NTP and PoE powered	PoE
WTD wireless synchronization, mains powered	WTD
Frame color	**7**
black	black
silver	silver
frame color, on request	RALxxxx
Options	**8**
powered by 24 VDC	VDC
internal relay	REL
Accessories	
GPS receiver	GPS 4500
DCF 77 radio signal receiver	DCF 4500
remote IR controller	IR
keyboard for stopwatch control, cable 5 m	SK
temperature sensor	TP
two temperature sensors	TP 2



DC.180.4



DC.180.6



LED Digital Clocks DC Series

Technical Data			DC.57.4	DC.57.6	DC.100.4	DC.100.6	DC.100x.6	DC.180.4	DC.180.6	DC.180x.6
Display	Digit height (mm)		57	57 / 38	100	100 / 57	100	180	180 / 100	180
	Number of digits		4	4 + 2	4	4 + 2	6	4	4 + 2	6
Time display (12 or 24 hours)	HH:MM		✔		✔			✔		
	HH:MM^{SS}			✔		✔			✔	
	HH:MM:SS						✔			✔
Date display	DD.MM		✔		✔			✔		
	DD.MM^{YY}			✔		✔			✔	
	DD.MM.YY						✔			✔
Powering	100 – 240 VAC 50 – 60 Hz		✔	✔	✔	✔	✔	✔	✔	✔
	24 VDC ±20 %		✔	✔	✔	✔	✔	✔	✔	✔
	PoE /IEEE 802.3af-Class 0)		✔	✔	✔	✔	–	–	–	–
Power consumption (red, green and yellow color display)	single-sided		8 VA	10 VA	8 VA	10 VA	11 VA	30 VA	38 VA	45 VA
	double-sided		15 VA	18 VA	15 VA	18 VA	21 VA	60 VA	75 VA	90 VA
	single-sided PoE		7 VA	9 VA	7 VA	9 VA	–	–	–	–
	double-sided PoE		14 VA	15 VA	14 VA	15 VA	–	–	–	–
Power consumption (blue and pure green)	single-sided		8 VA	11 VA	10 VA	13 VA	14 VA	42 VA	50 VA	63 VA
	double-sided		15 VA	19 VA	18 VA	23 VA	26 VA	84 VA	100 VA	126 VA
Quartz accuracy at 20 °C	without synchronization		±0.3 seconds / day (measured over 24 h, after synchronization of at least 24 h)							
Temperature accuracy	-25 to +80 °C		±1.0 °C							
Operating conditions			0 to +50 °C 0 to 95% relative humidity non condensing							
Protection degree			IP 40, optionally IP 54							
Weight (kg)	single-sided		1.4	1.8	2.4	3.1	3.5	6.3	9.3	10.4
	double-sided		2.6	3.0	4.4	5.6	6.0	10.2	15.3	17.6
Dimensions L: Length H: Height T: Thickness in mm	single-sided	L	333	423	510	652	728	880	1149	1267
		H	118	118	169	169	169	264	264	264
		T	39	39	39	39	39	39	39	39
	double-sided	L	333	423	510	652	728	880	1149	1267
		H	118	118	169	169	169	264	264	264
		T	78	78	78	78	78	78	78	78
Accessories										
DCF 4500 radio receiver			✔	✔	✔	✔	✔	✔	✔	✔
GPS 4500 receiver			✔	✔	✔	✔	✔	✔	✔	✔
External temperature sensor with IP 66 protection			✔	✔	✔	✔	✔	✔	✔	✔
External keyboard for stopwatch control, cable 5m			✔	✔	✔	✔	✔	✔	✔	✔
IR remote control unit			✔	✔	✔	✔	✔	✔	✔	✔

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