4010E/N/NE and 4200E/N/NE Digital Clocks

4010x.02

4010x.05

4010x.057

4200x.05

4200x.057

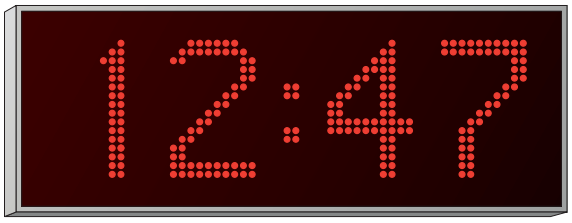
Model No.	Case Size	Character height	Viewing distance	LED Display Colour Options
4010x.02	Front bezel: 144 x72 x 3mm Case body: 132 x58 x147mm	20 & 14mm	7m (20 ft)	.R, .G, .SR
4010x.05	305 x 90 x 58mm	50 & 30mm	20m (60ft)	.R, .G, .Y, .B
4010x.057	390 x 90 x 58mm	57mm	25m (75ft)	.R, .G, .Y, .B
4010x.100	670 x 180 x 58mm	100mm	50m (150ft)	.R, .G, .Y, .B
4010x.12	670 x 180 x 58mm	120 & 100mm	50m (150ft)	.R, .G, .W, .UR, .UY
4010x.170	990 x 260 x 66mm	170mm	80m (250ft)	.R, .G, .W, .UR, .UY
4010x.220	1070 x 320 x 66mm	220 & 170mm	100m (300ft)	.R, .G, .W, .UR, .UY
4200x.05	240 x 90 x 58mm	50mm	25m (75ft)	.R, .G, .Y, .B
4200x.057	305 x 90 x 58mm	57mm	25m (75ft)	.R, .G, .Y, .B
4200x.100	480 x 180 x 58mm	100mm	50m (150ft)	.R, .G, .Y, .B
4200x.120	480 x 180 x 58mm	120mm	50m (150ft)	.R, .G, .W, .UR, .UY
4200x.170	730 x 260 x 66mm	170mm	80m (250ft)	.R, .G, .W, .UR, .UY
4200x.220	810 x 320 x 66mm	220mm	100m (300ft)	.R, .G, .W, .UR, .UY

The 4010x and 4200x series of digital clocks provide a precise and elegant display of time using red, green, yellow/amber, blue or white LED display characters with an unrivalled flexibility of operation in the most demanding timekeeping and stopwatch applications.

Synchronisation of the 4010N & 4200N series products is primarily via NTP/SNTP from a remote timeserver located on the customers TCP/IP Ethernet network. 4010E, 4010NE, 4200E & 4200NE units can be configured for over 30 different types of secondary clock operation, included GPS, MSF and DCF radio time code synchronisation when used with the appropriate option module or radio receiver.

4010x.100

4010x.12



4200x.12

Key Features

Automatic synchronisation with remote NTP network timeservers across a TCP/IP Ethernet network (4010N/NE or 4200N/NE units).

High visibility LED display with both automatic and manual brightness adjustment.

Time display in 4 digits (4200x) or 6 digits (4010x) with multiple time and date display formats.

Seven different display sizes offering a wide range of viewing distances between 30cm (12") -> 100m (300')

'Set Once' world time zone configuration allowing digital clock to support all international time zones.

Wireless IR remote control for configuration and multifunction stopwatch operation.

High quality aluminium case with anodised or RAL painted finish.

Remote configuration, management and software update across the Ethernet TCP/IP network using Wharton cMon software (4010N/NE or 4200N/NE units).

10/100 Base-T Ethernet interface (4010N/NE or 4200N/NE units).

Battery backup for maintaining timekeeping during periods of disconnection.

PoE (Power over Ethernet) Midspan and Endspan support, 100-240V 50-60Hz AC mains and 24V DC power options available.

4010E/N/NE and 4200E/N/NE Digital Clocks

Operational Features

High visibility 4 digit (4200x - hours and minutes) or 6 digit (4010x - hours, minutes and seconds) LED display.

Seven different display sizes offering viewing distances from 30cm (12") -> 100m (300ft).

User selectable 12 or 24 hour time display. Colons provide AM/PM indication in 12 hour mode.

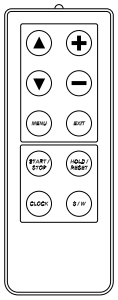
Automatic and 7 manual brightness settings.

Alternating time and date display with US, European and ISO date formats. (US and European date formats on 4 digit 4200x units only) User specified hold time for both time and date.

Multifunction Stopwatch operation with wireless RC100 infrared remote control.

10/100 Base-T Ethernet Interface (4010N/NE and 4200N/NE units).

Fully automatic configuration support when used with DHCP server supporting option 42.



RC100

Additional Features for 4010E, 4010NE, 4200E and 4200NE

User selection from over 30 different types of secondary clock operation including synchronising control by alternate and single polarity impulses, EBU/SMPTE time code, GPS and radio time codes, IRIG-B/Afnor NFS 87 500 time codes, MB serial and MOBALine time codes, serial ASCII messages at RS232 or RS485/422 levels in a wide range of formats and data rates, 48x0 time code and control using w482 time code to display time from one of fifteen different time zones.

Optional low cost internal wBus2 interface cards are required for EBU/SMPTE, IRIG-B/Afnor NF S 87-500, RS232, RS485 and 24V/48V Single/Alternate polarity impulse operation. Time synchronisation from MSF or DCF radio time codes and the GPS or GLONASS satellites requires the appropriate receiver.

Control of standard stopwatch operation 'start/stop' and 'hold/reset' operation using customer supplied external switches or voltage free contact closures.

Alternating time and temperature display in °C and °F when used with optional 406 temperature sensor. User specified hold time for both time and temperature.

Local Synchronisation output, allowing the time synchronisation of up to 5 other 4010E, 4010NE, 4200E and 4200NE digital clocks using a simple cable pair.

Timing accuracy

High Quality Quartz Crystal Oscillator

Unsynchronised: 0.1 sec/day @ 20-25°C

Synchronised to NTP/SNTP timeserver:

Typically synchronised within 1-10 milliseconds of master clock timebase depending on network delay and jitter. (NTP)

MSF or DCF synchronisation: ±20mS of UTC *1

GPS/GLONASS synchronisation: ±1mS of UTC *2

*1 4000E & 4000NE only - When used with either a 484.02 (MSF) or 484.03 (DCF) radio receiver.
*2 4000E & 4000NE only - When used with either a 488HS3 or 488HS3-GLONASS receiver.

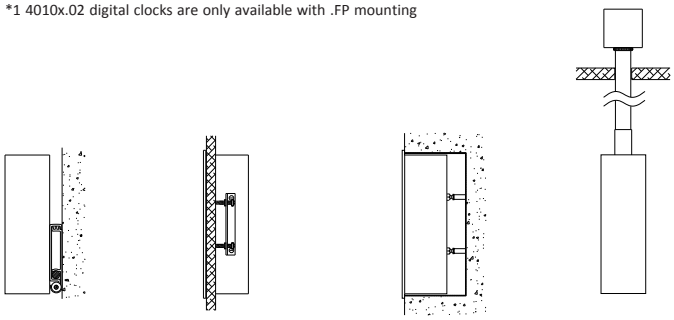
Case Styles and Colours

The 4010x and 4200x series of digital clocks are available as standard with a wide range of mounting options to ensure ease of integration in all applications.

.S	Surface Mounting case suitable for wall mounting.
.FP	Flush mounting case for use in a panel with rear access. *1
.FB	Flush mounting case, supplied with back box for use in a solid wall.
.SS	Single sided ceiling suspended case
.DS	Double sided ceiling suspended case

Digital clocks are supplied as standard with cases finished in black or silver fine brushed anodising. Painted case finishes to any RAL paint colour available at extra cost.

*1 4010x.02 digital clocks are only available with .FP mounting



Power Supply

IEEE 802.3af-2003 Class 3 Midspan and Endspan support (.PoE order code) *1

Internal PSU 110-240V AC. 50/60Hz
Units available with UK, European, US or Australian mains leads. (.UK, .EU, .US & .AU order codes) *2

DC power options: 24V & 48V DC power options available at extra cost. (Order code .24VDC & 48VDC) *2

Other power options available on request, please contact our sales team for more information.

Battery Backup: >1 Year. (The battery backup maintains the internal timekeeping during periods of mains failure)

*1 Not available on any 4010E or 4200E digital clocks, 4010N/NE.170, 4010N/NE.220, 4200N/NE.170 or 4200N/NE.220 digital clocks.
*2 Not available on 4200N/NE.05 digital clocks.

Environment

Operating temperature: 0-50°C
Relative Humidity: 0% to 95% (non-condensing.)
Altitude: 0 to 3,000m

Electromagnetic Compatibility, Safety and RoHS2 Directives

4010x and 4200x digital clocks, when used in accordance with our recommendations, comply with the European Community Electromagnetic Compatibility Directive 2004/108/EC, Low Voltage Directive 2006/95/EC and RoHS2 Directive 2011/65/EU and conform to the following standards:

EN 50121-4 : 2006	EN 61000-6-2 : 2005
EN 61000-6-4 : 2007+A1 : 2011	EN 55022 : 2010
EN 55024 : 2010	EN 60950-1 : 2006

Designed and manufactured by:

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