Analogue Clocks
Master Clocks
Clock Centrals
Digital Clocks
Wireless Master Clock System
Scoreboards

SCHAUER
TIME & COMMUNICATION

HUR5201NET
19" master clock with Ethernet interface

+ This master clock provides the time synchronisation solution for complete systems of equipment including computer networks, CCTV security, voice recording, industrial process control, CCC and many other applications requiring accurate time synchronisation.
+ Standard available with GPS, MSF, DCF and NTP synchronisation inputs
+ This master clock series is fitted with a 10/100Base-T Ethernet interface to allow the unit to act as NTP time server on a TCP/IP network
+ All master clocks are supplied as standard with one serial RS232 and RS485/RS422 serial ASCII Time and Date output
+ The master clock has one new zCode digital and analogue clock output
+ The output can be user programmed to transmit w482 time code for digital clock of series 400, Active MSF, Active DCF or 24 V Alternate polarity impulses as required by the connected digital and analogue clocks

Features and functions

+ High visibility 6 digit display with 6m viewing distance
+ Display and time code output messages can be referenced to UTC or 'Local' time
+ 'Set Once' local time zone setup, automatically calculating future time zone changes for local time zone

+ **Timing accuracy**
    + Standard integrated TCXO module (temperature stabilised oscillator)
    + Unsynchronised operation: 0.1 s/day at 0…45 ºC
    + With optional TCXOHQ module fitted: Unsynchronised operation 0.01 s/day at 0…45 ºC
    + Locked to MSF or DCF: within 30 ms of UTC
    + Locked to GPS: within 50 µs of UTC

+ **Standard Synchronisation Interfaces**
    + Standard Synchronisation interface allows synchronisation from external GPS-ANT1HS receiver or R4-DCF radio receiver
    + RS232 Serial input, allowing time synchronisation from various standard serial time codes
    + NTP/SNTP synchronisation from remote NTP time server located on TCP/IP network

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+ **Standard Output Interfaces**
    + One zCode digital and analogue clock synchronisation output
    + the output is programmable for w482, Active MSF, Active DCF and 24V Alternate Polarity Impulses
    + Supports up to 50 of series 400 digital clocks and time zone displays in w482 time code mode
    + In 24V alternate polarity impulse mode, the output is programmable for one second, half minute or one minute impulses
    + the impulse output is rated for 500mA load
    + RS232 and RS485/RS422 serial interface
    + 300-19200 Baud, 7/8 data bits, odd/even/no parity
    + User selectable output from over 80 predefined data formats for specific CCTV and embedded equipment
    + High accuracy 1 pulse per second output at RS232 levels

+ **10/100Base-T Ethernet interface**
+ Master Clock is supplied fitted with a 10/100Base-T Ethernet interface which allows them to act as a time server on a TCP/IP network
+ The network interface supports the following protocols:
    + **NTP**: Network Time Protocol (NTP) v2, v3 and v4 clients are supported in both unicast and broadcast modes of operation (RFC1305 & RFC1119)
    + **SNTP**: Simple Network Time Protocol (SNTP) v3 and v4 clients are supported in both unicast and broadcast modes of operation (RFC2030 & RFC1769)
    + **TIME**: TIME protocol (RFC868) is supported in UDP and TCP mode
    + **DAYTIME**: DAYTIME protocol (RFC867) is support in UDP and TCP mode

Technical data:

Power supply:	110…240 V AC, 50/60 Hz
Power consumption:	< 0.4 A @ 230 V AC
Battery backup:	>1 year (The battery backup maintains the internal time count during periods of mains failure)
Case:	1u high 19" rack wide 483 mm x deep 185 mm x high 44 mm
Weight:	2.8 kg
Operating temperature:	0 … 50 °C
Relative Humidity:	0 % to 90 % (non-condensing)
Altitude:	0 to 3.000 m
MTBF:	> 50,000 hours
Electromagnetic Compatibility & Safety:	Master clock when used in accordance with our recommendations, complies with the European Community Electromagnetic Compatibility Directive 2004/108/EC and Low Voltage Directive 2006/95/EC and conforms to the following standards: EN 61000-6-1: 2007 EN 61000-6-3: 2007 EN 60950-1: 2006 EN 61000-6-2: 2005

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Options:

GPS-ANT4HS:	GPS synchronisation system
SYNC2:	Second synchronisation interface to give dual redundant functionality Allows synchronisation from second external GPS-ANT1HS or R4-DCF radio receiver
IRIGIN:	Allows unit to synchronise to externally generated 1KHz Amplitude Modulated IRIG-B signal
OPTIN:	Optical input, allows unit to synchronise to various optically connected time codes. ST Fiber Optic connectors - 62.5/125um
AFOUT:	Dual audio time code outputs. Each output user selectable for 25fps EBU LTC time code or 1KHz Amplitude modulated IRIG-B time code
OPTOUT:	Dual Fiber Optic output. Can be configured to output demodulated IRIG-B, EBU or Serial ASCII data. ST Fiber Optic connectors - 62.5/125um
SER23:	Dual RS232/RS485 serial output option. 300-19200 Baud, 7/8 data bits, odd/even/no parity. User selectable output from over 80 predefined serial messages. The master clock can have a maximum of 3 serial ports, but multiple SER23 modules can still be fitted to the same master clock to provide additional buffered outputs for ports 2 and 3. Dual DB9 connection. Please note that the SER23 module takes up two adjacent slots when fitted
RELAY:	Dual 230V mains AC relays for periodic, signalling of error conditions and control of third party equipment
PPS110:	Dual High Voltage PPS periodic outputs rated at 110 V DC
DEMOUT:	Demodulated time code output. 4 mirrored logic level outputs. Each module can be user configured to output demodulated IRIG-B, MSF or DCF time codes or a PPS / other user selectable periodic signals
DUALAC:	Dual redundant 110…230 V 50/60 Hz mains AC power supply option
Ethernet redundancy:	Master clock versions which are fitted with dual 10/100Base-T Ethernet interfaces to provide additional system redundancy

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