

# Combined Timecode Serial Analogue Relay Interface Module

For use with Time & Frequency Solutions' M210 and M211 Modular Timing Systems. The Combined Timecode/Serial/Analogue/Relay Module provides a number of versatile outputs in a single module.



## Features

- 2 output channels for time data (RS232 / RS422)
- Each channel also provides an on-time signal giving a Time Reference edge [TTL or RS232, at rates of 1pps or 1ppm]
- Range of Timecode outputs available via 50Ω BNC socket
- Analogue clock driver pulse outputs at impulse rates of 1 minute, ½ Minute, or 1 per second intervals.
- 2 relay channels with programmable on-off times (voltage-free contact).

## Key Benefits

For the Timecode Output the formats supported include IRIG-B, IRIG-E, XR3, 2137 and AFNOR . For the serial outputs, a comprehensive range of protocols is available by user selection.

One impulse circuit is provided, which can supply standard 24V DC reverse polarity impulses either once per second, once per half minute or once per minute. These impulses are used to drive standard analogue impulse clocks. This output may also be used to drive Time & Frequency Solutions' range of Digital Displays.

## Applications

Where Timecode Outputs are required to provide time data for Audio Tape Recorders, while the Serial Outputs provide time for Computer Networks and/or Time Stamps and the Analogue Output is used for Wall Clocks. A variety of timecode types are available for user selection and the Serial Data Outputs are fully independent.

This module also includes two relay channels with programmable on-off times to allow the synchronisation of external devices such as found in SCADA and energy management equipment. The relay contacts are of the voltage free dry contact type.

# Combined Timecode Serial Analogue Relay Module Specifications

## Module Connections

**Timecode output:** 50Ω BNC socket.

**Serial & Relay outputs:** 5 way D type socket. Interface Cables (either DCE or DTE) are available for connection to this D type socket and these cables provide 25 way D type sockets or plugs.

**Analogue Drive output:** 9 way D type socket.

## Timecode Formats Available

IRIG-B, IRIG-E, XR3, 2137, AFNOR

Selection of the required timecode is made by means of the equipment front panel keyboard. The selection is stored in non-volatile memory. For other timecodes, please consult the Sales Office.

## Timecode Output Level

Provided at a level of 1V peak to peak into a 600Ω load.

## Serial Interface Standards

Each Serial Interface is factory selected to be either EIA RS232 or RS422 or standard. Please specify at the time of ordering.

## Serial Interface Protocols

Comprehensive ranges of standard protocols are available for selection via the front panel keyboard of the timing system.

Each output can be independently configured for protocol and communication attributes (e.g. baud rate).

The configuration is stored in non-volatile memory.

For details of other available protocols, consult the Sales Office.

## Ordering Information

Please quote part number when ordering: 0210HX000C

## Impulse Drive Characteristics

The Impulse Drive Circuits from this module have the following characteristics:

**Output Voltage :** +24V DC

**Output Current :** Dependent on capability of equipment Chassis – contact Sales Office.

**Output Protection:** Each output is short circuit protected and the module automatically compensates for missed pulses due to short-circuits.

**Impulse Repetition:** Once per second (pulse duration typically 400ms)

Once per half minute (pulse duration typically 1 second)

Once per minute (pulse duration typically 1 second)

The repetition rate is selectable via the front panel keyboard of the equipment. The selection is stored in non-volatile memory

## Relay Specification

2 relays are provided by the module.

Each relay contact is rated as follows: 1A @ 30V DC ; 0.5A @ 125V AC

## Relay ON/OFF Programming

The ON/OFF times of each relay are programmed using the front panel keyboard of the Time System.

Only one ON and OFF time per relay is allowed. All programming is stored in non-volatile memory.

## Environment (Operation & Storage)

Temperature : 0°C to +40°C

Humidity : Up to 95% RH (non-condensing)

EMC : CE Compliant