

# CERTIFICATE OF CALIBRATION

Issued By Transmille Ltd.

Certificate Number 34766

Date of Issue 15 November 2017



0324



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Approved Signatory

G.A. Shapland  M.A. Bailey  S.A. Hawkins  J.J. Bailey

**Customer :** SIGNATROL LTD  
UNIT E2, GREEN LANE BUSINESS PARK  
TEWKESBURY GLOUCESTERSHIRE. GL20 8SJ

Date Received : 08 November 2017

<b>Instrument :</b>	System ID :	T00008047	Job Number :	67562-2
	Description :	Frequency Meter	Ref. Number :	CE1054
	Manufacturer :	Thurlby-Thander	Site :	
	Model Number :	TF820	Location :	
	Serial Number :	014691	Last Calibration Certificate :	32285
	Procedure Version :	1.01/N	Last Calibration Date :	15/11/2016

## Environmental Conditions

Temperature : 20°C +/- 1°C  
Relative Humidity : 40% +/- 20%

Mains Voltage : 230V +/- 12V  
Mains Frequency : 50Hz +/- 1Hz

## Comments

Instrument was allowed to stabilise for at least 12 hours before calibration.

## Calibration Information

The instrument was calibrated against laboratory standards whose values are traceable to recognised National Standards. The uncertainty limits quoted refer to the measured values only, with no account being taken of the instruments ability to maintain its calibration.

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor  $k=2$ , providing a level of confidence of approximately 95%. The uncertainty evaluation has been carried out in accordance with UKAS requirements.

Calibrated By : M. Nelson

Date of Calibration : 15 November 2017

This certificate is issued in accordance with the laboratory accreditation requirements of the United Kingdom Accreditation Service. It provides traceability of measurement to the SI system of units and/or to units of measurement realised at the National Physical Laboratory or other recognised national metrology institutes. This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory.

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UKAS Accredited Calibration Laboratory No. 0324  
**AS FOUND RESULTS**

Certificate Number  
34766

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Test Title	Applied Value	Reading	Uncertainties
<b>General</b>			
Controls and display	---	Pass	
Inputs A/B/C	---	Pass	
<b>Gate Time Measurements - 10MHz Range, 1MHz input.</b>			
0.1s Gate Time	1 000.00kHz	1 000.00kHz	±21Hz
1s Gate Time	1 000.000kHz	1 000.003kHz	±2.1Hz
10s Gate Time	1 000.000 0kHz	1 000.002 8kHz	±210mHz
<b>Frequency Measurement gate time 1s</b>			
10MHz Range	0.100kHz	0.100kHz	±2.1Hz
10MHz Range	1.000kHz	1.000kHz	±2.1Hz
10MHz Range	10.000kHz	10.000kHz	±2.1Hz
10MHz Range	100.000kHz	100.000kHz	±2.1Hz
10MHz Range	1 000.000kHz	1 000.003kHz	±2.1Hz
10MHz Range	10 000.000kHz	10 000.028kHz	±2.1Hz
200MHz Range	10 000.00kHz	10 000.03kHz	±21Hz
1.3GHz Rng, C I/P	10.000 0MHz	10.000 0MHz	±21Hz
<b>Frequency Measurement gate time 1s (Signatrol frequency points)</b>			
1.3GHz Rng, C I/P	434.000 0MHz	434.001 4MHz	±150Hz
1.3GHz Rng, C I/P	868.000 0MHz	868.002 9MHz	±250Hz
1.3GHz Rng, C I/P	916.000 0MHz	916.003 0MHz	±250Hz
<b>End of results</b>			