



# TOOL CERTIFICATE

**Product type :** QL40FWSS 1Tx-3Rx  
**Serial Number :** 163602  
**Build date :** 22-Sep-16

Sonic sensors	
Serial Numbers :	Spacer : <b>161503</b> Tx : <b>160906</b> Rx1 : <b>160905</b> Rx2 : <b>153210</b> Rx3 : <b>150703</b>
Test :	Tool acoustic conduction

Cartridge	
Serial Number :	163602
Tests :	Current consumption : <span style="float: right;">40 mA</span>
	Main voltage input : <span style="float: right;">120 V</span>

Final test		
Tests :	Burn-in (1 night)	
	Telemetry tests on reference winch :	Cable Length      Baud rate
	Mono Cond. 1/8"	1500m      83kb/s
	4 Cond 3/16"	480m      333kb/s
	Field test	
	Open hole :	Velocity analysis
Cased hole :	CBL	

Calibration Responsible :

Validation by :

QC Responsible :

Date : 1/3/17.

# TOOL CERTIFICATE



Product type : QL40GRCCL  
Serial Number : 163901  
Build date : 131016

CCL	
Tests :	Functionality check
	Calibration (mV)
	Operating temperature : 70°C / Operating pressure : 200 bar

Cartridge		
Serial Number :	<u>163901</u>	
Firmware QLGen CPU:	<u>1.46</u>	
Firmware QLtelePSU:	<u>1.8</u>	
Tests :	Current consumption	<u>30 mA</u>
	Main voltage input	<u>120 V</u>

3" Natural GR Module		
Serial Numbers :	Crystal :	<u>110212AA</u>
	PMT 9924B :	<u>60791</u>
	Alim PMT PS1805/5-02 :	<u>33504</u>
Crystal type : Scintillation	Dimension : 7/8"x3"	Mat. = NaI(Tl)
Tests :	Total Count Natural Gamma Calibration Factor	<u>1,0411</u>
	Reference source 1306 API	
	Oven test - Signal drift verification	

Final test			
Tests :	Burn-in (1 night)		
	Telemetry tests on reference winch :	Cable Length	Baud rate
	<u>Mono Cond. 1/8"</u>	<u>1500m</u>	<u>83kb/s</u>
	<u>4 Cond 3/16"</u>	<u>480m</u>	<u>333kb/s</u>
	Field test		

Calibration Responsible : *Collin*

Validation by : *Dejaos*

QC Responsible : *S Depley*

Date : 14/10/16



MOUNT SOPRIS INSTRUMENTS  
 4975 East 41st Avenue  
 Denver, CO 80216  
 Phone: 303-279-3211

# TOOL CERTIFICATE

Product type : QL40-FTC  
 Build date : Mar 13, 2017  
 Customer : MSE International Logger

Probe			
Serial Number :	6338		
Model :	QL40-FTC		
Part Number :	Q40FTC-1000		
Tele PSU Firmware :	Version 1.8		
Gen CPU Firmware :	Version 1.46		
Tests :	Current consumption	35 mA (NOM)	<input checked="" type="checkbox"/>
	Voltage at test	120 V	<input checked="" type="checkbox"/>
	Pressure test	200 bar (2900 psi)	<input checked="" type="checkbox"/>

Fluid Temperature and Conductivity Sensors			
Tests :	<b>Temp. Range</b>	<b>Measured Temp. (Meter)</b>	<b>Measured Temp. (Probe)</b>
	Low	6.8 °C	6.9 °C
	Medium	18.9 °C	18.5 °C
	High	70.6 °C	70.7 °C
	<b>Cond. Range</b>	<b>Measured Cond. (Meter)</b>	<b>Measured Cond. (Probe)</b>
	Low	112 uS/cm	112 uS/cm
	Medium	318 uS/cm	319 uS/cm
	High	4950 uS/cm	5127 uS/cm

Final Test			
Burn-in (24 hours)		<input checked="" type="checkbox"/>	
<b>Telemetry tests on reference cable</b>	<b>Cable length</b>	<b>Baud rate</b>	
Mono Cond. 1/8"	500 meters	<input checked="" type="checkbox"/> 41.6 kb/s	<input checked="" type="checkbox"/> 166 kb/s
4 Cond. 3/16"	1850 meters	<input checked="" type="checkbox"/> 41.6 kb/s	<input checked="" type="checkbox"/> 166 kb/s
Logged in MSI test well		Yes/No	
Logged in offsite test location		Yes/No	
Probe stack configurations:			
GRA 6121 + FTC 6338			

Calibration By: NGOC NGUYEN  
 Validation By: Steve Phung

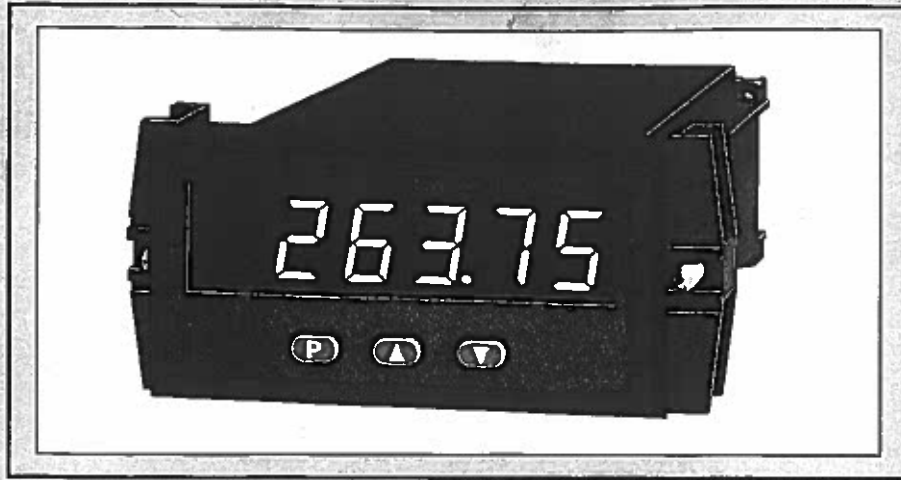
Date: Mar 3, 2017  
 Date: 4/25/2017

QL40-FTC

Temperature sensor reference  
 Conductivity sensor reference



# THE APOLLO INTELLIGENT METER SERIES



**MODEL IMS INSTRUCTION MANUAL**