

Kalibrierzertifikat / Calibration Certificate

Die BAUR GmbH bestätigt, dass das angeführte Gerät alle Spezifikationen erfüllt oder übertrifft, die in dem angegebenen Verfahren angegeben sind (sofern nicht anders angegeben). Es wurde mit Messnormalen kalibriert, die auf National Institute rückführbar sind.

BAUR GmbH certifies that the listed device meets or exceeds all specifications as stated in the referenced procedure (unless otherwise noted). It has been calibrated using measurement standards traceable to National Institutes of Standards

Kal.-Zertifikat-
Nummer

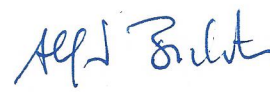
Number of
Cal.-Certificate

20-1031

Gegenstand: Object:	Digitalmultimeter		FOUND-LEFT	
Hersteller: Manufacturer:	Fluke			
Typ: Type:	87 III			
Inventarnummer: Asset number:	75090042	Seriennummer: Serial number:	75090042	
Auftraggeber: Customer:	Servis BAUR s.r.o. Zampachova 2021/5a	CZ	61300	Brno Czech Republic
Auftragsnummer: Order number:	105 007 309			
Anzahl der Seiten des Kalibrierzertifikates: Number of pages of the certificate:	7			
Datum der Kalibrierung: Date of calibration:	04. Februar 2020			

Dieses Kalibrierzertifikat darf nur vollständig und unverändert weiterverarbeitet werden. Auszüge oder Änderungen sind unzulässig. Kalibrierzertifikate ohne Unterschrift und Stempel haben keine Gültigkeit.

This calibration certificate may not be reproduced other than in full. Calibration certificates without signature and seal are not valid.

Ort, Datum Location, Date	Stempel Seal	Zeichnungsberechtigter Authorised person	Bearbeiter Person responsible
Sulz, 04.02.2020	 BAUR GmbH A-6832 Sulz/Austria T: +43 5522 4941-0 F: +43 5522 4941-3 www.baur.eu	 Alfred Bechter	 Alfred Bechter

Kalibriergegenstand: **Digitalmultimeter** **20-1031**
Object of calibration:

Kalibrierverfahren: **Fluke 87 III: (1 year) CAL VER /5520**
Calibration procedure:

Ort der Kalibrierung: **Sulz,**
Location of calibration:

Umgebungsbedingungen: Umgebungstemperatur: **25,5°C ± 2,0 °C**
Ambient conditions: *Ambient temperature:*

Rel. Luftfeuchtigkeit: **34 % ± 15 %**
Rel. Humidity:

Messunsicherheit: Angegeben ist die erweiterte Messunsicherheit, die sich aus der Standardmessunsicherheit durch Multiplikation mit dem Erweiterungsfaktor $k = 2$ ergibt. Sie wurde gemäß DAR-4-EM-07 ermittelt. Der Wert der Messgröße liegt mit einer Wahrscheinlichkeit von 95% im zugeordneten Werteintervall.

Measurement uncertainty: *The uncertainty of measurement stated is the expanded uncertainty which is obtained from the standard uncertainty of measurement by multiplication by the expansion factor $k = 2$. It was determined in accordance with "Guide to the Expression of Uncertainty in Measurement". Normally, with a probability of approx. 95%, the value of the measured lies within the interval assigned.*

Eingangsdatum: **16.01.2020**
Date of receipt:

Kalibrierstatus: **PASS**
Calibration status:

Zustand: **FOUND-LEFT**
Condition:

Bemerkung: The device complies with the manufacturer's specifications.
Remark:

Standards Used

<u>Ident.Nr.</u>	<u>Hersteller</u>	<u>Modell</u>	<u>Description</u>	<u>Cal Date</u>	<u>Due Date</u>
792-100	Fluke	5522A	Kalibrator	10.12.2019	10.12.2020

Messergebnis / Test Results

20-1031

<u>Messbereich</u>	<u>Referenzwert</u>	<u>Messwert</u> <u>Prüfling</u>	<u>Deviation</u>	<u>Toleranz</u>	<u>Error in %</u>	<u>relative</u> <u>Mess-</u> <u>unsicherheit</u>	<u>Status</u>
BASIC OPERABILITY TEST							
1 kOhm Input Resistor							Pass
mA μ A Input Fuse							Pass
A Input Fuse							Pass
DISPLAY TEST							
							Pass
ROTARY SWITCH TESTS							
VAC position							Pass
VDC position							Pass
mVDC position							Pass
Ohms position							Pass
Diode position							Pass
mA A position							Pass
μ A position							Pass
DC MILLIVOLT TEST							
400 mV Range							
350.0 mV	350.00 mV	349.9 mV	-0.10 mV	0.50 mV	20%	2.9e-005 V	Pass
DC VOLTAGE TESTS							
4 V Range							
3.500 V	3.5000 V	3.499 V	-0.0010 V	0.0030 V	33.3%	2.9e-004 V	Pass
40 V Range							
35.00 V	35.000 V	34.99 V	-0.010 V	0.030 V	33.3%	2.9e-003 V	Pass
-35.00 V	-35.000 V	-34.99 V	0.010 V	0.030 V	33.3%	2.9e-003 V	Pass
400 V Range							
350.0 V	350.00 V	350.0 V	0.00 V	0.30 V	0%	2.9e-002 V	Pass
1000 V Range							
1000 V	1000.0 V	1001 V	1.0 V	2.0 V	50%	2.9e-001 V	Pass
AC VOLTAGE TESTS							
400 mV Range							
350.0 mV @ 60 Hz	350.00 mV	349.5 mV	-0.50 mV	2.90 mV	17.2%	5.2e-005 V	Pass
350.0 mV @ 1 kHz	350.00 mV	349.9 mV	-0.10 mV	3.90 mV	2.56%	5.2e-005 V	Pass
350.0 mV @ 5 kHz	350.00 mV	349.7 mV	-0.30 mV	7.40 mV	4.05%	5.2e-005 V	Pass

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Messbereich	Referenzwert	Messwert Prüfling	Deviation	Toleranz	Error in %	relative Mess- unsicherheit	Status
350.0 mV @ 20 kHz	350.00 mV	348.7 mV	-1.30 mV	9.00 mV	14.4%	5.7e-005 V	Pass
4 V Range							
3.500 V @ 60 Hz	3.5000 V	3.498 V	-0.0020 V	0.0270 V	7.41%	5.2e-004 V	Pass
3.500 V @ 1 kHz	3.5000 V	3.502 V	0.0020 V	0.0390 V	5.13%	5.2e-004 V	Pass
3.500 V @ 5 kHz	3.5000 V	3.497 V	-0.0030 V	0.0740 V	4.05%	5.2e-004 V	Pass
3.500 V @ 20 kHz	3.5000 V	3.507 V	0.0070 V	0.0900 V	7.78%	6.3e-004 V	Pass
40 V Range							
35.00 V @ 60 Hz	35.000 V	34.98 V	-0.020 V	0.270 V	7.41%	4.4e-003 V	Pass
35.00 V @ 1 kHz	35.000 V	35.05 V	0.050 V	0.390 V	12.8%	4.4e-003 V	Pass
35.00 V @ 5 kHz	35.000 V	34.91 V	-0.090 V	0.740 V	12.2%	5.8e-003 V	Pass
35.00 V @ 20 kHz	35.000 V	34.83 V	-0.170 V	0.900 V	18.9%	6.4e-003 V	Pass
400 V Range							
350.0 V @ 60 Hz	350.00 V	349.6 V	-0.40 V	2.70 V	14.8%	5.3e-002 V	Pass
350.0 V @ 1 kHz	350.00 V	350.4 V	0.40 V	3.90 V	10.3%	5.3e-002 V	Pass
350.0 V @ 2.5 kHz	350.00 V	350.2 V	0.20 V	7.40 V	2.7%	4.8e-002 V	Pass
1000 V Range							
900 V @ 60 Hz	900.0 V	905 V	5.0 V	8.0 V	62.5%	3.1e-001 V	Pass
900 V @ 1 kHz	900.0 V	906 V	6.0 V	13.0 V	46.2%	3.1e-001 V	Pass
1 ms MIN/MAX TESTS							
2.828 Vp @ 60 Hz	2.8280 Vp	2.804 Vp	-0.0240 Vp	0.1230 Vp	19.5%	3.5e-004 Vp	Pass
-2.828 Vp @ 60 Hz	-2.8280 Vp	-2.892 Vp	-0.0640 Vp	0.1230 Vp	52%	3.5e-004 Vp	Pass
FREQUENCY TESTS							
19.999 kHz Range							
19.000 kHz @ 150 mV	19.0000 kHz	18.999 kHz	-0.0010 kHz	0.0020 k Hz	50%	2.9e-001 Hz	Pass
199.99 kHz Range							
190.00 kHz @ 150 mV	190.000 kHz	189.99 kHz	-0.010 kHz	0.020 k Hz	50%	2.9e+000 Hz	Pass
FREQUENCY SENSITIVITY and TRIGGER LEVEL							
4 VAC Range							
Reading triggered							Pass
4 VDC Range							
Reading triggered							Pass
Reading not triggered							Pass

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40 VDC Range							
Reading triggered							Pass
Reading not triggered							Pass
RESISTANCE TESTS							
400 Ohm Range							
190.0 Ohm	190.00 Ω	190.0 Ω	0.00 Ω	0.60 Ω	0%	2.9e-002 Ohm	Pass
40 kOhm Range							
19.00 kOhm	19.000 k Ω	19.00 k Ω	0.000 k Ω	0.050 k Ω	0%	2.9e+000 Ohm	Pass
4 MOhm Range							
1.900 MOhm	1.9000 M Ω	1.901 M Ω	0.0010 M Ω	0.0120 M Ω	8.33%	2.9e+002 Ohm	Pass
40 MOhm Range							
19.00 MOhm	19.000 M Ω	19.00 M Ω	0.000 M Ω	0.220 M Ω	0%	4.0e+003 Ohm	Pass
CONDUCTANCE TEST							
40 nS Range							
10.00 nS	10.000 n S	10.00 n S	0.000 n S	0.200 n S	0%	3.5e-012 S	Pass
CAPACITANCE TESTS							
5.00 μ F Range							
1.00 μ F	1.000 μ F	0.99 μ F	-0.010 μ F	0.050 μ F	20%	3.2e-009 F	Pass
0.500 μ F Range							
0.470 μ F	0.4700 μ F	0.469 μ F	-0.0010 μ F	0.0080 μ F	12.5%	8.9e-010 F	Pass
0.0500 μ F Range							
0.0470 μ F	0.04700 μ F	0.0473 μ F	0.00030 μ F	0.00080 μ F	37.5%	8.9e-011 F	Pass
5.00 nF Range							
4.70 nF	4.700 n F	4.74 n F	0.040 n F	0.080 n F	50%	8.9e-012 F	Pass
DC MICROAMP TESTS							
400 μ A Range							
350.0 μ A	350.00 μ A	349.6 μ A	-0.40 μ A	1.10 μ A	36.4%	4.4e-008 A	Pass

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4000 μA Range							
3500 μ A	3500.0 μ A	3495 μ A	-5.0 μ A	9.0 μ A	55.6%	3.7e-007 A	Pass
DC MILLIAMP TESTS							
40 mA Range							
35.00 mA	35.000 mA	34.97 mA	-0.030 mA	0.110 mA	27.3%	3.7e-006 A	Pass
400 mA Range							
350.0 mA	350.00 mA	349.8 mA	-0.20 mA	0.90 mA	22.2%	5.1e-005 A	Pass
DC AMP TESTS							
4000 mA Range							
3500 mA	3500.0 mA	3496 mA	-4.0 mA	11.0 mA	36.4%	9.2e-004 A	Pass
10 A Range							
10.00 A	10.000 A	10.00 A	0.000 A	0.040 A	0%	3.6e-003 A	Pass
AC MICROAMP TESTS							
400 μA Range							
350.0 μ A @ 60 Hz	350.00 μ A	349.4 μ A	-0.60 μ A	3.70 μ A	16.2%	2.0e-007 A	Pass
350.0 μ A @ 1 kHz	350.00 μ A	350.3 μ A	0.30 μ A	3.70 μ A	8.11%	2.0e-007 A	Pass
4000 μA Range							
3500 μ A @ 60 Hz	3500.0 μ A	3497 μ A	-3.0 μ A	37.0 μ A	8.11%	1.3e-006 A	Pass
3500 μ A @ 1 kHz	3500.0 μ A	3504 μ A	4.0 μ A	37.0 μ A	10.8%	1.3e-006 A	Pass
AC MILLIAMP TESTS							
40 mA Range							
35.00 mA @ 60 Hz	35.000 mA	34.98 mA	-0.020 mA	0.370 mA	5.41%	1.3e-005 A	Pass
35.00 mA @ 1 kHz	35.000 mA	35.06 mA	0.060 mA	0.370 mA	16.2%	1.3e-005 A	Pass
400 mA Range							
350.0 mA @ 60 Hz	350.00 mA	350.0 mA	0.00 mA	3.70 mA	0%	1.1e-004 A	Pass
350.0 mA @ 1 kHz	350.00 mA	350.6 mA	0.60 mA	3.70 mA	16.2%	1.1e-004 A	Pass
AC AMP TESTS							
4000 mA Range							
3500 mA @ 60 Hz	3500.0 mA	3497 mA	-3.0 mA	37.0 mA	8.11%	1.6e-003 A	Pass

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3500 mA @ 1 kHz	3500.0 mA	3508 mA	8.0 mA	37.0 mA	21.6%	2.2e-003 A	Pass
10 A Range							
10.00 A @ 60 Hz	10.000 A	10.06 A	0.060 A	0.120 A	50%	4.2e-003 A	Pass
10.00 A @ 1 kHz	10.000 A	10.10 A	0.100 A	0.120 A	83.3%	5.5e-003 A	Pass
DIODE TEST							
3.000 V	3.0000 V	2.998 V	-0.0020 V	0.0610 V	3.28%	2.9e-004 V	Pass

End of Test Data