Honeywell Hi-Spec Solutions

2020 System Calibrator

The Calibration Solution that Maximizes your System

Honeywell Hi-Spec Solution's 2020 System Calibrator is a multifunction, documenting field platform that performs calibrations, tests and inspections of analog, Honeywell DE, and HART enabled field instruments and devices. The 2020 can source or measure electronic, pressure and temperature signals in one rugged, compact unit. Combined with Honeywell's DocuMint Solution, the most powerful automated calibration management software, the 2020 System Calibrator is the only tool required to manage and document all your instrumentation.

Multifunctional:
Calibrate temperature, pressure, voltage, current, resistance, and frequency. Since it both measures and sources, you can troubleshoot and calibrate all with one rugged tool.
Powerful, yet easy to use:
The easy-to-follow, menu-driven display guides you through any task. Programmable calibration routines enable you to create and run automated as-found/as-left procedures to ensure fast, consistent calibrations.
Records and documents results:
To support your ISO-9000 or regulatory standards, the 2020 System Calibrator captures your calibration results, eliminating the need to juggle a pen and pad in the field. The RS-232 interface lets you transfer the results to DocuMint, thus saving the time of having to manually transcribe them when you return to the shop.
Truly hand-held:
Small enough to fit easily into a tool bag and to use in tight spaces. Runs an entire shift on a rechargeable NiMH battery pack.
Rugged and reliable:
Overmolded urethane case stands up to rough handling in industrial environments. Calibrators offer one-year or two-year calibration cycles and three-year warranty.

Bright white display lets you read your results in any kind of light.

Soft keys provide one-touch access to enhanced functions such as task lists, automated procedures, scaling, min/max, stepping and ramping, and review memory.

Three operating modes, Measure, Source, or simultaneous Measure/Source, enable technicians to troubleshoot, calibrate, or maintain instrumentation with just one tool.

Integrated HART communication capability lets you program and control HART instrumentation.

Fully Digital Honeywell DE communication lets you collect the PV in the digital mode for complete documentation.

Multi-lingual interface displays instructions in English, French, German, Spanish, and Italian.

AutoStep allows technicians to set the calibrator for a delayed start and a specific sequence of steps, so it can run unattended as a continuously varying test source.

User entered values enable users to capture readings measured or sourced by other devices.

Custom units allow readings to be scaled and displayed in any user-defined units.

Limit switch calibration procedures perform fast, automated calibration of one and two-point limit switches for voltage, current, temperature, and pressure.

Differential pressure flow instrument calibration routines use a square root function to directly calibrate DP flow instruments.

Built-in algebraic calculator with four functions-plus square root-stores, recalls, and performs calculations required for setting up instruments or evaluating data in the field. Use it to set the source function to a calculated value. There's no need to carry a pencil or paper or a separate calculator.

Programmable measurement delay inside automated procedures permits calibrating instruments that respond slowly.

General Specifications

Dimensions	130 x 236 x 61 mm
Weight	1.4 kg (3 lb 1 oz)
Internal Battery Pack	NiCd, 7.2V, 1700 mAh; NiMH (744 only) 7.2V, 3500 mAh
Battery Life	Typical usage > eight hours
Battery Replacement	Via snap-shut door without opening calibrator; no tools required
Side Port Connections	• Pressure module connector • RS-232 connector to interface to your PC • Connection for optional battery eliminator
Safety	Complies with CAN/CSA C22.2 No 1010.1-92, ASNI/ISA S82.01-1994, UL3111, and EN610-1:1993
Data Storage Capacity	1 week of calibration results
90 day specifications	The standard specification intervals for the 2020 System Calibrator are 1 and 2 years. Typical 90 day measurement and source accuracy can be estimated by dividing the one year "% of reading" or "%of output" specifications by 2. Floor specifications, expressed as "% of f.s." or "counts" or "ohms" remain constant.

Source Accuracy

Range (full scale)	Accuracy

	(% of reading + % of full scale)
110.000 mV	0.01% + 0.005%
1.10000V	0.01% + 0.005%
15.0000V	0.01% + 0.005%
Source 22.000 mA	0.01% +0.015%
Simulate 22.000 mA	0.02% + 0.03%
11.000Ω	0.01% + 20 mΩ
110.00Ω	0.01% + 40 mΩ
1.1000 kΩ	0.02% + 0.5Ω
11.000 kΩ	0.03% + 5Ω
0.00 to 10.99 Hz	0.01 Hz
11.00 to 109.99 Hz	0.1 Hz
110.0 to 1099.9 Hz	0.1 Hz
1.100 to 21.999 kHz	2 Hz
22.000 to 50.000 kHz	5 Hz

Measurement Accuracy

Range (Full scale)	**Accuracy** (% of reading + % of full scale)
110.000 mV DC	0.025% + 0.015%
1.10000V DC	0.025% + 0.005%
11.0000V DC	0.025% + 0.005%
110.000V DC	0.05% + 0.005%
300.00V DC	0.05% + 0.005%
V AC, 20 to 40 Hz	2% + 10 counts
V AC, 40 to 500 Hz	0.5% + 5
V AC, 500 to 1 kHz	2% + 10
V AC, 1 kHz to 5 kHz	10% + 20
30.000 mA DC	0.01% + 0.015%
110.00 mA DC	0.01% + 0.015%
11.000Ω	0.05% + 50 mΩ
110.00Ω	0.05% + 50 mΩ
1.1000 kΩ	0.05% + 0.5Ω
11.000 kΩ	0.1% + 10Ω
1.00 to 109.99 Hz	0.05 Hz
110.0 to 1099.9 Hz	0.5 Hz
1.100 to 10.999 kHz	5 Hz
11.00 to 50.00 kHz	50 Hz

Technical Data

Environmental Specifications	**Operating Temperature:*** -10°C to 50°C (-20°C typical except for frequency and ac voltage measurement)

	Storage Temperature:* -20°C to 60°C **Operating Altitude:*** 2800m above mean sea level (9186 ft) **Enclosure Protection:*** Designed to meet IEC529 IP52 (normal operating vacuum for dust)
Data Log Function (except 741B)	**Measure functions:** Voltage, current, resistance, frequency, temperature, pressure **Reading rate:** 1, 2, 5, 10, 20, 30, or 60 readings per minute **Maximum record length:** 8000 readings (7980 for 30 or 60 readings per minute)
Ramp Function	**Source functions:** Voltage, current, resistance, frequency, temperature **Rate:** 4 steps/second **Trip Detect:** Continuity or voltage (continuity detection not available when sourcing current)
Loop Power Function	**Voltage:** Selectable, 24V or 28V **Accuracy:** 5% **Maximum current:** 22 mA, short circuit protected **Maximum input voltage:** 30V dc

*(all calibrator specifications apply from +18°C to +28°C unless stated otherwise)

2020 System Calibrator-HART

Comes with two sets of TL24 industrial test leads, two sets of AC20 test clips, one set of TP20 test probes, a BP7217 battery pack, a BC7210 battery charger, an instruction manual, , NIST-traceable calibration report and data, and three year warranty. Every 2020 includes a serial port cable and HART communications cable.

Available Accessories and Options

Model Name	Accessory or Option Description
700-IV	Current Shunt
700BCA	Bar Code Adapter
700BCW	Bar Code Wand
334.1.63	Hydraulic Test Pump
80CJ-M	Male Mini-Connector Plug Type J (pkg/2)
80CK-M	Male Mini-Connector Plug Type K (pkg/2)
80PK-1	Bead Probe
80PK-2A	Immersion Probe
80PK-3A	Surface Probe
AC20	Saftey Alligator Clips
BC7210	External Battery Charger
BE9005	Battery Eliminator
BP7217	niCd Battery Pack
334.1.67	Hard Carrying Case The Fluke C700 has a custom cut foam liner.
C781	Soft Carrying Case The Fluke C781 is rugged, close fitting fabric carrying case with a separate, detachable pouch for test leads and accessories.

C789	Soft Carrying Case
700P01	Differential Pressure Module Range/Resolution: 10 in. H2O/0.01
700P02	Differential Pressure Module Range/Resolution: 1 psi/0.0001
700P03	Differential Pressure Module Range/Resolution: 5 psi/0.0001
700P04	Differential Pressure Module Range/Resolution: 15 psi/0.001
700P05	Gage Pressure Module Range/Resolution: 30 psi/0.001
700P06	Gage Pressure Module Range/Resolution: 100 psi/0.01
700P07	Gage Pressure Module Range/Resolution: 500 psi/0.01
700P08	Gage Pressure Module Range/Resolution: 1000 psi/0.1
700P09	Gage Pressure Module Range/Resolution: 1500 psi/0.1
700P22	Differential Pressure Module Range/Resolution: 1 psi/0.0001
700P23	Differential Pressure Module Range/Resolution: 5 psi/0.0001
700P24	Differential Pressure Module Range/Resolution: 15 psi/0.001
700P29	High Pressure Module Range/Resolution: 3000 psi/0.1
700P30	High Pressure Module Range/Resolution: 5000 psi/0.1
700P31	High Pressure Module Range/Resolution: 10000 psi/1
700PA3	Absolute Pressure Module (not compatible with Fluke 701 or 702) Range/Resolution: 5 psi/0.0001
700PA4	Absolute Pressure Module (not compatible with Fluke 701 or 702) Range/Resolution: 15 psi/0.001
700PA5	Absolute Pressure Module (not compatible with Fluke 701 or 702) Range/Resolution: 30 psi/0.001
700PA6	Absolute Pressure Module (not compatible with Fluke 701 or 702) Range/Resolution: 100 psi/0.01
700PD2	Dual Pressure Module Range/Resolution: ±1 psi/0.0001
700PD3	Dual Pressure Module Range/Resolution: ±5 psi/0.0001
700PD4	Dual Pressure Module Range/Resolution: ±15 psi/0.001
700PD5	Dual Pressure Module Range/Resolution:-15/30 psi/0.001
700PD6	Dual Pressure Module Range/Resolution: -15/100 psi/0.01

700PD7	Dual Pressure Module Range/Resolution:-15/200 psi/0.01
700PV3	Vacuum Pressure Module (not compatible with Fluke 701 or 702) Range/Resolution: -5 psi/0.0001
700PV4	Vacuum Pressure Module (not compatible with Fluke 701 or 702) Range/Resolution: -15 psi/0.001