



## bar 745 High Accuracy Pressure Standard

The Model 745 Portable Transfer Standards provide the highest accuracy pressure measurements for laboratory and metrological applications. Digiquartz® Transducers cover 26 absolute and gauge pressure ranges up to 40,000 psi (276 MPa) with unsurpassed accuracy, reliability and stability. The simple, intuitive front-panel user interface and versatile functionality with the rearpanel RS-232 computer interface make the Model 745 the best choice for high performance pressure calibrations.

The Model 745 is portable, easy to use, and fully self-contained in a compact case. Turn it on and immediately read the pressure values in any of nine different user-selectable engineering units. All pressure readings are fully temperature compensated and linearized. Tare functions, pressure units, temperature units, resolution, sampling time, number of display digits, communication settings, baud rates, sensor address, and passwords can be selected via the front panel menu system. The choices for second line display include an analog pressure bar graph, sensor temperature, rate of pressure change, and stored text or external text. The unit can also be controlled via the bi-directional RS-232 interface. Free software is included to read and log data via the RS-232 port.

The unit is either continuously powered from its AC adapter or for up to 20 hours from four AA cells. Pressure readings and an overpressure signal can be displayed remotely with the optionally available Model 715 display.

Certified to the ISO 9001 International Quality Standard.

### APPLICATION AREAS

- Metrology
- Process Control
- Transfer Standards
- Reference Barometers
- Laboratory Instrumentation



### PERFORMANCE\*

Parts-per-billion Resolution  
0.008% Full Scale accuracy

### RANGES

#### 20 Absolute Pressure Ranges from:

0-15 psia (0.10 MPa) to 0-40,000 psia (276 MPa)

#### 6 Gauge Pressure Ranges from:

0-15 psig (0.10 MPa) to 0-200 psig (1.38 MPa)

### FEATURES

#### Intuitive front panel menu system

#### Two-line display with menu selectable functions:

- Taring
- Engineering units
- Pressure bar graph
- Sensor temperature
- Password protection
- Rate of pressure change
- Resolution and sampling speed
- Adjustable number of display digits
- User choice of stored or external text
- Rack or panel mount capability
- Enhanced RS-232 command set
- 110V or 220V AC adapter power
- Multiple remote display capability
- Free configuration and logging software
- 20 hours battery operation (4 AA size)

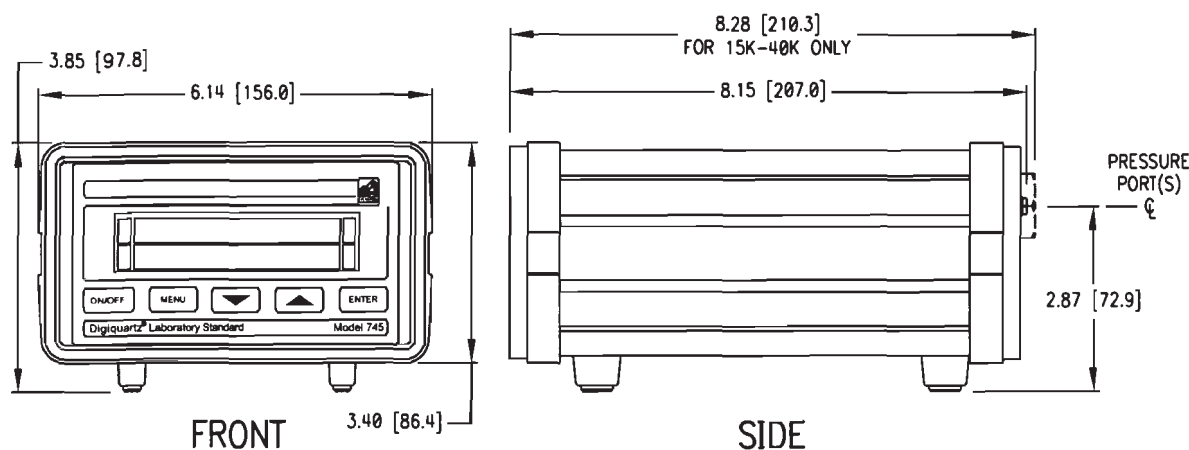
### QUALITY AND STANDARDS

- NIST traceable
- Market-leading 5-year limited warranty
- 3-year stability warranty on barometers

\*Products defined by specification control drawing

# SPECIFICATION CONTROL DRAWING

## STANDARD PRODUCT



MODEL 745

MODEL NO.	PART NO.	PRESSURE RANGE		MATING FITTING
745-15A	1728-201	0-15 PSIA	(0.10 MPa)	1/8 PARKER A-LOK OR EQUIVALENT
745-16B	1728-210	7-16 PSIA	(0.11 MPa)	
745-23A	1728-202	0-23 PSIA	(0.16 MPa)	
745-30A	1728-203	0-30 PSIA	(0.21 MPa)	
745-45A	1728-204-0	0-45 PSIA	(0.31 MPa)	
745-100A	1728-205-0	0-100 PSIA	(0.69 MPa)	
745-200A	1728-206-0	0-200 PSIA	(1.38 MPa)	
745-300A	1728-207-0	0-300 PSIA	(2.07 MPa)	
745-400A	1728-208-0	0-400 PSIA	(2.76 MPa)	
745-500A	1728-209-0	0-500 PSIA	(3.45 MPa)	
745-15G	1728-211	0-15 PSIG	(0.10 MPa)	HIP: GLAND 60-2HM4 COLLAR 60-2H4 NIPPLE HM4 SEE NOTE 7
745-22G	1728-212	0-22 PSIG	(0.15 MPa)	
745-30G	1728-213	0-30 PSIG	(0.21 MPa)	
745-100G	1728-214-0	0-100 PSIG	(0.69 MPa)	
745-150G	1728-215-0	0-150 PSIG	(1.03 MPa)	
745-200G	1728-216-0	0-200 PSIG	(1.38 MPa)	
745-1K	1728-217-0	0-1,000 PSIA	(6.89 MPa)	
745-2K	1728-218-0	0-2,000 PSIA	(13.8 MPa)	
745-3K	1728-219-0	0-3,000 PSIA	(20.7 MPa)	
745-6K	1728-220-0	0-6,000 PSIA	(41.4 MPa)	
745-10K	1728-221-0	0-10,000 PSIA	(68.9 MPa)	
745-15K	1728-222-0	0-15,000 PSIA	(103 MPa)	
745-20K	1728-223-0	0-20,000 PSIA	(138 MPa)	
745-30K	1728-224-0	0-30,000 PSIA	(207 MPa)	
745-40K	1728-225-0	0-40,000 PSIA	(276 MPa)	

WITH "-0" FOR OIL-FILLED.  
NOT AVAILABLE ON UNITS 30 PSI AND BELOW.

### PERFORMANCE:

ACCURACY INCLUDING PRESSURE HYSTERESIS, REPEATABILITY, LINEARITY, AND TEMPERATURE CONFORMANCE .....  $\pm 0.008\%$  OF FULL SCALE OR BETTER  
 MODEL 745-16B ..... BETTER THAN  $\pm 0.08$  hPa  
 MODEL 745-30K AND 745-40K .....  $\pm 0.02\%$  FULL SCALE OR BETTER

### CHARACTERISTICS:

WEIGHT ..... 4.0 LB (1.8 KG) MAX  
 POWER REQUIREMENTS (EXTERNAL) ..... +6 TO +25 VDC  
 TYPICAL CURRENT CONSUMPTION:  
 STANDARD RESOLUTION MODE ..... 72 mA  
 FIR RESOLUTION MODE (FIRMWARE D1.06 AND LATER) ..... 84 mA  
 IIR RESOLUTION MODE (FIRMWARE D1.06 AND LATER) ..... 100 mA  
 OPERATES UP TO 20 HOURS IN STANDARD RESOLUTION MODE ON 4 AA INTERNAL ALKALINE BATTERIES.  
 DISPLAY IS 16 CHARACTER X 2 ROW LCD WITH .32" HIGH CHARACTERS.

### ENVIRONMENTAL:

OVERPRESSURE ..... 1.2 TIMES FULL SCALE  
 MODELS 745-500A ..... 1.0 TIMES FULL SCALE  
 MODELS 745-30K AND 745-40K ..... 1.1 TIMES FULL SCALE  
 OPERATING TEMPERATURE RANGE ..... 0 °C TO +40 °C (32 °F TO 104 °F)

### NOTES:

- MAXIMUM TORQUE ON PRESSURE FITTINGS IS 75 IN-LB (8.47 N-m) EXCEPT HIP PRESSURE FITTING WHICH IS 25 FT-LB (33.9 N-m).
- REFER TO OPERATION MANUAL 8004-001 FOR OPERATING INSTRUCTIONS. OPERATIONS MANUAL CAN BE DOWNLOADED FROM PAROSCIENTIFIC WEBSITE.
- CAUTION: HANDLE UNIT WITH CARE. EXCESSIVE SHOCK OR VIBRATION MAY CAUSE PERMANENT DAMAGE.
- ACCESSORIES INCLUDE:  
 SERIAL INTERFACE CABLE, DC POWER SUPPLY (100-240VAC IN, 9VDC OUT, 50-60Hz), LAMINATED MENU CARD, AND 4 AA SIZE BATTERIES. DC POWER SUPPLY INCLUDES NORTH AMERICAN, EUROPEAN UNION, UNITED KINGDOM, AND AUSTRALIA/NEW ZEALAND INTERCHANGEABLE INPUT PLUGS.
- OIL-FILLED UNITS HAVE THE PRESSURE PORT OIL FILLED UNDER VACUUM WITH DOW CORNING FS-1265 FLUID. AT 25 °C, SPECIFIC GRAVITY IS 1.25 AND VISCOSITY IS 300 CENTISTOKES. FOR GAUGE UNITS, ONLY THE POSITIVE PRESSURE PORT IS OIL FILLED. CAUTION: DO NOT APPLY VACUUM OR GAS TO OIL FILLED PRESSURE PORTS, OIL COULD BE WITHDRAWN PERMITTING PRESSURE MEDIUM TO COME INTO CONTACT WITH SENSING ELEMENTS.
- RS-232 PORT MEETS EIA/TIA-232 SPECIFICATIONS.
- ALSO ACCEPTS: AUTOCLAVE GLAND AGL(40), COLLAR ACL(40), AND NIPPLE CN44.

DESCRIPTION			
DIGIQUARTZ® PORTABLE LABORATORY STANDARD, MODEL 745			
SIZE	CAGE	DOCUMENT NUMBER	REV
A	54535	7831-001	M
SCALE		SHEET	
1/3		1 OF 2	

SPECIFICATION CONTROL DRAWING

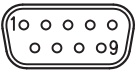
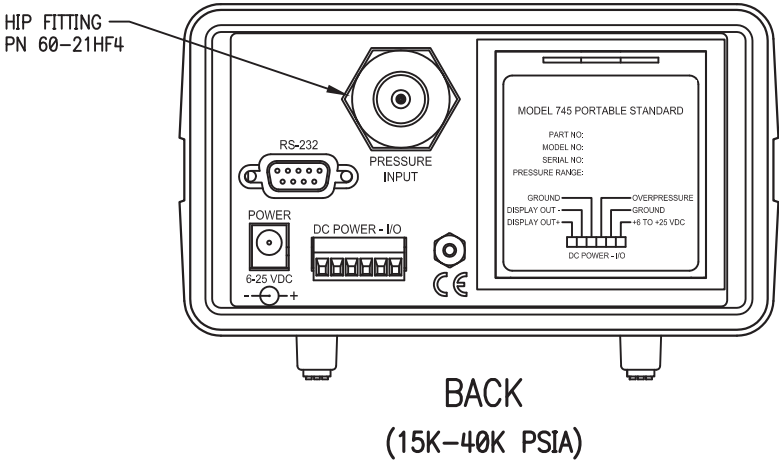


FIGURE 1

CONNECTOR PIN-OUT:

PIN	SIGNAL
1	NOT USED
2	RS-232 TX
3	RS-232 RX
4	NOT USED
5	POWER/SIGNAL GND
6	NOT USED
7	NOT USED
8	NOT USED
9	NOT USED

