FLOW METER LIMITED WARRANTY

Meters are warranted against defects in materials and workmanship to the original user for a period of thirteen (13) months from the date of factory shipment, provided the meter is installed, operated and maintained in accordance with King Instrument Company’s instructions and recommendations.

This warranty does not apply if failure is caused or contributed to by any of the following: improper handling, improper storage, abuse, unsuitable application of the product, lack of reasonable and necessary maintenance, use exceeding suggested pressure and temperature maximums, improper packaging for return, or repairs made or attempted to be made by anyone other than King Instrument Company, Inc.

KING INSTRUMENT COMPANY, INC. MAKES NO WARRANTY AS TO THE FITNESS OF ITS PRODUCTS FOR SPECIFIC APPLICATIONS.

This warranty is valid for the original end-user only and does not apply to products that have been damaged or modified. This warranty is non-transferrable and is limited to replacement or repair. The liability of King Instrument Company arising out of its supply of the products, or their use, shall not in any case exceed the cost of correcting defects in the products as set forth above.

THIS WARRANTY IS A LIMITED WARRANTY AND SHALL BE IN LIEU OF ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. THERE ARE NO OTHER WARRANTIES WHICH EXIST BEYOND THE DESCRIPTION OR FACE HEREOF.

IN NO EVENT SHALL KING INSTRUMENT COMPANY BE LIABLE FOR LOSS OF PROFITS, INDIRECT, CONSEQUENTIAL OR INCIDENTAL DAMAGES.

Products should be returned, prepaid, to King Instrument Company, Inc. with proof of purchase. Call factory for Return Merchandise Authorization (RMA) number and return instructions.

THIS IS IMPORTANT INFORMATION. READ IT CAREFULLY BEFORE BEGINNING WORK.

1) Inspect meter for damage that may have occurred during shipping. Report any damage to the container to the freight carrier immediately.

2) Make sure your pressure, temperature, fluid and other requirements are compatible with the meter (including o-rings.)

3) Select a suitable location for installation to prevent excess stress on the meter which may result from:
   a) Misaligned pipe.
   b) The weight of related plumbing.
   c) “Water Hammer” which is most likely to occur when flow is suddenly stopped as with quick closing solenoid operated valves. (If necessary, a surge chamber should be installed. This will also be useful in pressure start-up situations.)
   d) Thermal expansion of liquid in a stagnated or valve isolated system.
   e) It is recommended to install valving which will allow the meter to be drained. Meter should be drained when not in use or prior to maintenance.
   f) Instantaneous pressurization which will stress the meter and could result in tube failure.

NOTE: In closed thermal transfer or cooling systems, install the meter in the cool side of the line to minimize meter expansion and contraction and possible fluid leaks at the threaded connections.

4) Handle the meter carefully during installation.
   a) Use an appropriate amount of teflon tape on external pipe threads before making connections. Do not use paste or stick type thread sealing products.
   b) Over tightening of plastic connections may result in fitting damage.

5) Install the meter vertically with the inlet port at the bottom.

6) Meters with plastic fittings must be installed so that fittings are not made to support any part of the associated plumbing. In addition, meter frame should be fastened to bulkhead, panel or column.

7) Meters used in gas service should have suitable valves plumbed in at the inlet and outlet of the meter. These valves should be no more than 1-1/2 pipe diameters from the meter ports. The valve at the outlet should be used to create back pressure as required to prevent float bounce. It should be set initially and then left alone. The inlet valve should be used for throttling purposes. Depending on the installation, valves may not be essential, but they are most useful in many installations. Remember: To get a correct reading of flow in gas service, it is necessary to know the pressure right at the outlet of the meter (before the valve).

8) Pressure and temperature maximums must never be exceeded.
Before the meter is reassembled, inspect all parts for damage.

Deposits can be removed with a 5% acetic acid solution (vinegar). Hard water construction are not damaged by cleaning solutions. Hard water may cause o-rings to swell which may cause glass tube to fail.

All components are now fully accessible for cleaning. Components fitting and into the plug. Turn clockwise to remove it.

Loctite R to valve threads and a silicone based lubricant onto o-rings. Recommended. Outer valve o-ring should be replaced during meter maintenance and cleaning.

Out the other end. As a recommendation made by King Instrument Company, Inc. for a specific application.

To minimize down time, 7430 Series metering tubes are designed to be removed without uninstalling flowmeter from piping system. Meters used in gas service should have suitable valves plumbed in.

For repair, 7430 Series meters that require repair should be sent to the factory. Please call for a Return Merchandise Authorization (RMA) number and return instructions.

When it comes to flow...we're instrumental.

(714) 891-0008 • www.kinginstrumentco.com | 2
1. Inspect meter for damage that may have occurred during shipping.

2. Make sure your pressure, temperature, fluid and other settings and locations of these devices should be such that meters cannot be misused or used in an unsuitable application.

3. Select a suitable location for installation to prevent excess stress that the reference line is facing frontward. Tighten compression screw to 4 in. lbs.

4. Handle the meter carefully during installation.

5. Install the meter vertically with the inlet port at the bottom.

6. Meters with plastic fittings must be installed so that fittings are not damaged by cleaning orifice plug. Replace shield by snapping it into place.

7. Meters used in gas service should have suitable valves plumbed in on the meter which may result from:

   a) Misaligned pipe.

   b) Use an appropriate amount of teflon tape on external pipe threads before making connections. Do not use paste or stick type thread sealing products.

8. Pressure and temperature maximums must never be exceeded.

   a) Temperature

   b) Pressure

9. Pressure and temperature ratings are based on a study of the engineering data of raw materials used in our products; however, this information should not be construed as a recommendation made by King Instrument Company, Inc. for a particular materials used in construction and on the design of individual models. This information is supplemented by destructive test results. Meters with

   a) Retaining Nut

   b) Scale Plate Mount Screw

   c) Scale Plate

10. Meters are not specifically recommended for service other than

   a) Temperature

   b) Pressure

11. Tube Adaptor

12. Float Stop

13. Float

14. Glass Meter Tube

15. Scale Plate Mount Screw

16. Scale Plate Mount

17. Scale Plate Screw

18. Scale Plate

19. Scale Plate Screw

20. Scale Plate

21. Shield

22. Valve Assembly

23. Shield Spacer

24. Glass Tube Gasket

25. Float Stop

26. Float

27. Glass Meter Tube

28. Scale Plate Mount Screw

29. Scale Plate Mount

30. Scale Plate Screw

31. Scale Plate

32. Scale Plate Screw

33. Scale Plate

34. Shield

35. Valve Assembly

36. Shield Spacer

37. Glass Tube Gasket

38. Float Stop

39. Float

40. Glass Meter Tube

41. Scale Plate Mount Screw

42. Scale Plate Mount

43. Scale Plate Screw

44. Scale Plate

45. Scale Plate Screw

46. Scale Plate

47. Shield

48. Valve Assembly

49. Shield Spacer

50. Glass Tube Gasket

51. Float Stop

52. Float

53. Glass Meter Tube

54. Scale Plate Mount Screw

55. Scale Plate Mount

56. Scale Plate Screw

57. Scale Plate

58. Scale Plate Screw

59. Scale Plate

60. Shield

61. Valve Assembly

62. Shield Spacer

63. Glass Tube Gasket

64. Float Stop

65. Float

66. Glass Meter Tube

67. Scale Plate Mount Screw

68. Scale Plate Mount

69. Scale Plate Screw

70. Scale Plate

71. Scale Plate Screw

72. Scale Plate

73. Shield

74. Valve Assembly

75. Shield Spacer

76. Glass Tube Gasket

77. Float Stop

78. Float

79. Glass Meter Tube

80. Scale Plate Mount Screw

81. Scale Plate Mount

82. Scale Plate Screw

83. Scale Plate

84. Scale Plate Screw

85. Scale Plate

86. Shield

87. Valve Assembly

88. Shield Spacer

89. Glass Tube Gasket

90. Float Stop

91. Float

92. Glass Meter Tube

93. Scale Plate Mount Screw

94. Scale Plate Mount

95. Scale Plate Screw

96. Scale Plate

97. Scale Plate Screw

98. Scale Plate

99. Shield

100. Valve Assembly

101. Shield Spacer

102. Glass Tube Gasket

103. Float Stop

104. Float

105. Glass Meter Tube

106. Scale Plate Mount Screw

107. Scale Plate Mount

108. Scale Plate Screw

109. Scale Plate

110. Scale Plate Screw

111. Scale Plate

112. Shield

113. Valve Assembly

114. Shield Spacer

115. Glass Tube Gasket

116. Float Stop

117. Float

118. Glass Meter Tube

119. Scale Plate Mount Screw

120. Scale Plate Mount

121. Scale Plate Screw

122. Scale Plate

123. Scale Plate Screw

124. Scale Plate

125. Shield

126. Valve Assembly

127. Shield Spacer

128. Glass Tube Gasket

129. Float Stop

130. Float

131. Glass Meter Tube

132. Scale Plate Mount Screw

133. Scale Plate Mount

134. Scale Plate Screw

135. Scale Plate

136. Scale Plate Screw

137. Scale Plate

138. Shield

139. Valve Assembly

140. Shield Spacer

141. Glass Tube Gasket

142. Float Stop

143. Float

144. Glass Meter Tube

145. Scale Plate Mount Screw

146. Scale Plate Mount

147. Scale Plate Screw

148. Scale Plate

149. Scale Plate Screw

150. Scale Plate

151. Shield

152. Valve Assembly

153. Shield Spacer

154. Glass Tube Gasket

155. Float Stop

156. Float

157. Glass Meter Tube

158. Scale Plate Mount Screw

159. Scale Plate Mount

160. Scale Plate Screw

161. Scale Plate

162. Scale Plate Screw

163. Scale Plate

164. Shield

165. Valve Assembly

166. Shield Spacer

167. Glass Tube Gasket

168. Float Stop

169. Float

170. Glass Meter Tube

171. Scale Plate Mount Screw

172. Scale Plate Mount

173. Scale Plate Screw

174. Scale Plate

175. Scale Plate Screw

176. Scale Plate

177. Shield

178. Valve Assembly

179. Shield Spacer

180. Glass Tube Gasket

181. Float Stop

182. Float

183. Glass Meter Tube

184. Scale Plate Mount Screw

185. Scale Plate Mount

186. Scale Plate Screw

187. Scale Plate

188. Scale Plate Screw

189. Scale Plate

190. Shield

191. Valve Assembly

192. Shield Spacer

193. Glass Tube Gasket

194. Float Stop

195. Float

196. Glass Meter Tube

197. Scale Plate Mount Screw

198. Scale Plate Mount

199. Scale Plate Screw

200. Scale Plate

201. Scale Plate Screw

202. Scale Plate

203. Shield

204. Valve Assembly

205. Shield Spacer

206. Glass Tube Gasket

207. Float Stop

208. Float

209. Glass Meter Tube

210. Scale Plate Mount Screw

211. Scale Plate Mount

212. Scale Plate Screw

213. Scale Plate

214. Scale Plate Screw

215. Scale Plate

216. Shield

217. Valve Assembly

218. Shield Spacer

219. Glass Tube Gasket

220. Float Stop

221. Float

222. Glass Meter Tube

223. Scale Plate Mount Screw

224. Scale Plate Mount

225. Scale Plate Screw

226. Scale Plate

227. Scale Plate Screw

228. Scale Plate

229. Shield

230. Valve Assembly

231. Shield Spacer

232. Glass Tube Gasket

233. Float Stop

234. Float

235. Glass Meter Tube

236. Scale Plate Mount Screw

237. Scale Plate Mount

238. Scale Plate Screw

239. Scale Plate

240. Scale Plate Screw

241. Scale Plate

242. Shield

243. Valve Assembly

244. Shield Spacer

245. Glass Tube Gasket

246. Float Stop

247. Float

248. Glass Meter Tube

249. Scale Plate Mount Screw

250. Scale Plate Mount

251. Scale Plate Screw

252. Scale Plate

253. Scale Plate Screw

254. Scale Plate

255. Shield

256. Valve Assembly

257. Shield Spacer

258. Glass Tube Gasket

259. Float Stop

260. Float

261. Glass Meter Tube

262. Scale Plate Mount Screw

263. Scale Plate Mount

264. Scale Plate Screw

265. Scale Plate

266. Scale Plate Screw
7430 SERIES INDUCTIVE RING SENSOR

**INDUCTIVE RING SENSOR:**

All 7430 Series flowmeters may be fitted with one inductive ring sensor. The inductive ring sensor is mounted on the glass meter tube using springs to put tension between the frame and glass meter tube. The sensor can be either proximity or latching type and can only be used with 316SS or Carboloy floats. The inductive ring sensor produces an electromagnetic field that senses the metal float within sensing zone. Inductive ring sensors are 2-wire, DC, low current devices and are designed to be used with a remote intrinsic safety barrier / switch isolator.

**SWITCH ISOLATOR:**

Inductive ring sensors are designed to be connected to a switch isolator for intrinsically safe applications. The purpose of the switch isolator is to supply electrical signals between safe and hazardous areas in either direction while limiting the amount of energy that can be transferred even under fault conditions. Switch isolators are available with 220VAC, 110VAC or 24VDC supply voltage requirements, contain single pole double throw (SPDT) relays, and are DIN rail mountable. See switch isolator specifications for electrical connections and further details.

### 7430 SERIES ASSEMBLY WITH INDUCTIVE RING SENSOR PARTS LIST:

1. Top Frame Plug
2. Frame Assembly
3. Glass Meter Tube Assembly
4. Inductive Ring Sensor
5. Sensor Tension Spring
6. Alarm Junction Box
7. Alarm Junction Box Screw
8. Strain Connector
9. Shield

### INDUCTIVE RING SENSOR-ELECTRICAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>TYPE:</th>
<th>INDUCTIVE PROXIMITY OR LATCHING</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUPPLY VOLTAGE:</td>
<td>5-25V DC (Switch Isolator)</td>
</tr>
<tr>
<td>OUTPUT:</td>
<td>NAMUR</td>
</tr>
<tr>
<td>OUTPUT LOAD CURRENT:</td>
<td>&lt;= 1mA-Float Present</td>
</tr>
<tr>
<td></td>
<td>&gt;= 3mA (15mA Max.)-Float Absent</td>
</tr>
<tr>
<td>SWITCHING FREQUENCY:</td>
<td>2kHz</td>
</tr>
<tr>
<td>HOUSING RATING:</td>
<td>IP67</td>
</tr>
<tr>
<td>OPERATING TEMPERATURE:</td>
<td>-13°F to 104°F</td>
</tr>
<tr>
<td></td>
<td>-13°F to 158°F</td>
</tr>
<tr>
<td></td>
<td>1/8&quot; Latching</td>
</tr>
<tr>
<td></td>
<td>1/8&quot; Proximity</td>
</tr>
<tr>
<td></td>
<td>1/4&quot; Latching</td>
</tr>
<tr>
<td></td>
<td>1/4&quot; Proximity</td>
</tr>
<tr>
<td>WIRING:</td>
<td>PVC covered, 2 Conductor, 26 AWG, 6.5 Ft. Long. Brown (+) / Blue (-)</td>
</tr>
<tr>
<td>PEPPERL+FUCHS</td>
<td>UL: General Purpose</td>
</tr>
<tr>
<td>SENSOR APPROVALS</td>
<td>FM: Intrinsically Safe</td>
</tr>
<tr>
<td></td>
<td>CSA: Intrinsically Safe</td>
</tr>
<tr>
<td></td>
<td>CENELEC: Intrinsically Safe</td>
</tr>
</tbody>
</table>
**7430 SERIES FIBER OPTIC SENSOR**

**FIBER OPTIC SENSOR:**
All 7430 Series flowmeters may be fitted with one fiber optic sensor. The fiber optic sensor is mounted to the frame with a screw in a slotted screw for adjustability. The sensor uses a pair of fiber optic cables with an emitter and receiver to transmit the light generated by the sensor. The sensor can interface directly to a Programmable Logic Controller (PLC) or when connected to a separate relay can trigger a local or remote alarm.

**FIBER OPTIC SENSOR-ELECTRICAL SPECIFICATIONS**

- **SUPPLY VOLTAGE:** 10-30V DC
- **SUPPLY CURRENT:** 25mA
- **OUTPUT:** NPN Sinking, N.O. & N.C.
  PNP Sourcing, N.O. & N.C.
- **OUTPUT RATING:** 150mA max. Total Load
- **OUTPUT RESPONSE TIME:** 1ms
- **OFF STATE LEAKAGE CURRENT:** 1 MICOAMP @ 30V DC
- **OUTPUT SATURATION VOLTAGE:** <=1V at 10mA DC
  >=1.5V at 150mA DC
- **REPEATABILITY:** 0.25ms
- **HOUSING RATING:** IP67; NEMA 6
- **OPERATING TEMPERATURE:** -5°F TO +131°F

**7430 SERIES ASSEMBLY WITH FIBER OPTIC SENSOR PARTS LIST:**

1. Top Frame Plug
2. Frame Assembly
3. Glass Meter Tube Assembly
4. Fiber Optic Housing Screw
5. Fiber Optic Housing
6. Alarm Junction Box
7. Alarm Junction Box Screw
8. Strain Connector
9. Fiber Optic Cable
10. Fiber Optic Adaptor
11. Fiber Optic Sensor
12. Shield