

The identiFINDER™ is a hand-held instrument for mobile gamma spectrometry with dose rate display, accumulated dose display, source finder and automatic nuclide identification capability. The integrated display and three push button operation provides easy use

## identiFINDER™ -X

Isotope Identifier integrated into a 4' to 8' telescoping pole for extended reach

- Surveying large containers
- Transportation safety
- Emergency response
- Waste monitoring
- Contamination monitoring
- Environment control
- Leak identification
- Searching for sources in scrap metal
- Neutron and extended range detection options

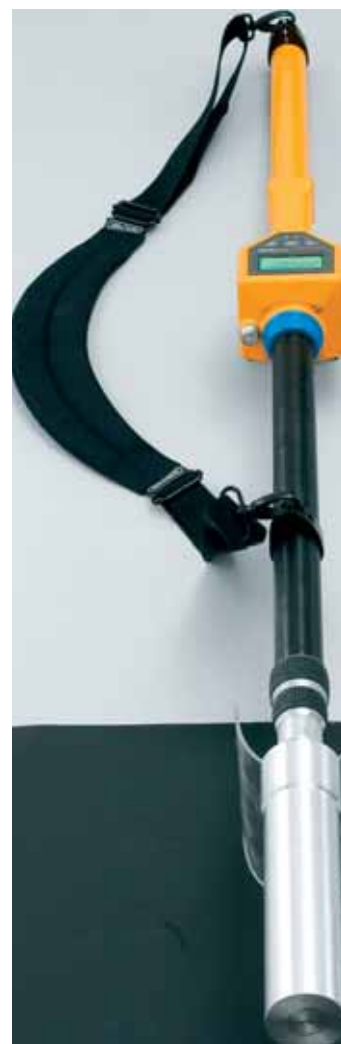
identiFINDER™ is a user-friendly instrument that distinguishes man-made and natural isotopes and combines high sensitivity with a wide dose rate range. The instrument is a dual purpose design to facilitate locating missing or offending sources and then identifying the source via its gamma spectrometry and nuclide identification capability.

identiFINDER™ is a complete digital gamma spectroscopy and dose rate system. It integrates multi-channel analyzer, amplifier, high voltage power supply, and memory with an integral scintillation detector.

identiFINDER™ is suited for remote applications, advanced warning systems, hazardous environments and nuclear inventory monitoring. It is supplied with NaI (TL) detector 31 x 38 mm (1.2 x 1.5"). An optional <sup>3</sup>He neutron detector is available on the NaI/<sup>3</sup>He model as well as a GM tube for extended dose rate range.

A built-in <sup>137</sup>Cs reference source (< 500 Bq/15 nCi) is used for online stabilization and in-situ calibration without user interaction. This special identiFINDER™ feature allows operational temperatures between -15 and 55 °C (4 to 131 °F) with large temperature gradients.

Connected to a desktop or notebook PC, the unit provides qualitative and quantitative in-situ analysis with optional gamTMCA-N software. Up to 70 spectra of 1024 channels can be stored in the unit and directly transferred to any PC for further and advanced analysis.



## identiFINDER™ Specifications

### User Selectable Nuclide Library

More than 72 reference spectra of gamma nuclides are categorized based on their main practical occurrence, including:

|             |  |
|-------------|--|
| Medical:    | <sup>131</sup> I; <sup>99m</sup> Tc; <sup>67</sup> Ga; <sup>123</sup> I; <sup>125</sup> I; <sup>111</sup> In; <sup>103</sup> Pd; <sup>201</sup> Tl   |
| OSI:        | <sup>140</sup> Ba; <sup>116</sup> Cd; <sup>141</sup> Ce; <sup>144</sup> Ce; <sup>132</sup> I; <sup>140</sup> La; <sup>99</sup> Mo; <sup>95</sup> Nb; <sup>147</sup> Nd; <sup>144</sup> Pr; <sup>106</sup> Rh; <sup>103</sup> Ru; <sup>125</sup> Sb; <sup>132</sup> Te; <sup>131m</sup> Xe; <sup>133</sup> Xe; <sup>133n</sup> Xe; <sup>135</sup> Xe; <sup>95</sup> Zr  |
| Nuclear:    | <sup>239</sup> Pu; <sup>233</sup> U; <sup>235</sup> U; <sup>237</sup> Np   |
| Industrial: | <sup>110m</sup> Ag; <sup>241</sup> Am; <sup>133</sup> Ba; <sup>207</sup> Pb; <sup>109</sup> Cd; <sup>57</sup> Co; <sup>58</sup> Co; <sup>60</sup> Co; <sup>134</sup> Cs; <sup>137</sup> Cs; <sup>51</sup> Cr; <sup>152</sup> Eu; <sup>155</sup> Eu; <sup>59</sup> Fe; <sup>192</sup> Ir; <sup>40</sup> K; <sup>54</sup> Mn; <sup>22</sup> Na; <sup>226</sup> Ra; <sup>75</sup> Se; <sup>232</sup> Th-232; <sup>238</sup> U; <sup>65</sup> Zn; <sup>228</sup> Ac; <sup>109m</sup> Ag; <sup>7</sup> Be; <sup>212</sup> Pb; <sup>214</sup> Pb; <sup>138</sup> Ce; <sup>181</sup> Hf; <sup>133</sup> I; <sup>134</sup> I; <sup>135</sup> I; <sup>56</sup> Mn; <sup>214</sup> Pb; <sup>106</sup> Ru; <sup>124</sup> Sb; <sup>127</sup> Sb; <sup>208</sup> Tl; <sup>88</sup> Y; Annihilation Radiation |

The operator can select from 6 sub-libraries (Nuclear, Industrial, Medical, Customs, CTBTO, and User). All sub-libraries except CTBTO can be edited by adding or deleting specific nuclides from the list.

Ten (10) reference spectra can be measured by the user and added to the predefined library spectra. Identification is done by a template-matching correlation procedure.

### Features

|                         |  |
|-------------------------|--|
| Functions:              | Nuclide identification, spectrum analysis, dose rate calculation, total dose display, source finding   |
| Optional:               | Uranium enrichment calculation, Pu-U-Th-Verification, Determination of active length of fuel elements  |
| Integrated electronics: | Multi-Channel-Analyzer, PMT preamplifier, spectroscopy amplifier, power supply   |
| Integrated detectors:   | 31 x 38 mm (1.2 x 1.5") NaI (TI) (standard)  |
| Optional:               | 25 x 25 mm (1 x 1") NaI (TI) tungsten shielded; 35 x 90 mm (1.4 x 3.5") NaI (TI); 10 x 10 x 5 mm <sup>3</sup> (0.06 x 0.06 x 0.03 in <sup>3</sup> ) CdZnTe; GM tube for high dose rates. |

### Physical Dimensions

|                    |   |
|--------------------|---|
| Weight:            | 2650 gr. (5.8 lbs)                        |
| Length:            | Min: 1336 mm (4.4') , Max: 2356 mm (7.7') |
| Temperature range: | -15 to 55 °C (4 to 131 °F)                |
| Protection:        | water proof, dust tight                   |
| Protection class:  | IP 65                                     |
| Drop test:         | 1 m (3.3') on concrete (w/o detector)     |
| Dimensions:        | 23 x 9 x 7 cm (9.07" x 3.55" x 2.76")     |

### Available in the following Models:

|                    |   |
|--------------------|---|
| identiFINDER-X-N   | Instrument with dia 1,4" x 2" (dia 35 mm x 51 mm) NaI(Tl), GM, battery charger, serial/USB interface adapter box incl. cables, carrying case, winTMCA software                        |
| identiFINDER-X-NH  | Instrument with dia 1,4" x 2" (dia 35 mm x 51 mm) NaI(Tl), 3He neutron detector, battery charger, serial/USB interface adapter box incl. cables, carrying case, winTMCA software.     |
| identiFINDER-X-NGH | Instrument with dia 1,4" x 2" (dia 35 mm x 51 mm) NaI(Tl), GM, 3He neutron detector, battery charger, serial/USB interface adapter box incl. cables, carrying case, winTMCA software. |

### Spectrometry System Specifications

|                    |  |
|--------------------|--|
| Detector Type:     | NaI, BGO, CdZnTe, Plastic, Tungsten shielded NaI, larger NaI detectors available |
| HV-Bias:           | 50 - 1275 V selectable   |
| Shaping type:      | digital filter   |
| INL, top 99%:      | >0.05%   |
| DNL, top 99%:      | >0.01%   |
| Spectrum length:   | 1024 channels  |
| Pileup rejection:  | 400 ns, pulse pair res.  |
| Throughput rate:   | >50,000 cps  |
| Input rate:        | >500,000 cps   |
| Spectrum memory:   | 70 spectra at 1024 channels  |
| Real time presets: | 1 s - 1,000,000 s  |
| Live time presets: | 1 s - 1,000,000 s  |



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