

## USM 35X



The latest version of the USM 35 portable ultrasonic flaw detector from GE's Inspection Technologies business, is now totally protected against the ingress of dust and high pressure jets of water to IP 66 and contains new software which allows its operation to Japanese [weld inspection](#) standards.

{tab=Features}

- Protection according to IP66
- Can be operated in harsh or industrial environments
- Fast and bright color LCD
- Rechargeable battery with ability to operate for 14 hours
- Max allowable operating temperature range from 0°C to 50°C
- Optional DGS module for single element or dual element (T/R) probes. The module includes some preset GE's single or dual probes. Other probes can be configured by the user.
- [true DGS® angle beam transducers](#) for significantly improved sizing capabilities to EN 583-2

{tab=Specifications} **Calibration ranges**

- Min** 0 to 0.5 mm +10 % (steel), 0 to 0.02" +10 % (steel)
- Max** 0 to 9,999 mm +10 % (steel), 0 to 390" +10 % (steel) within the frequency range from 0.2 to 1 MHz
- Sound velocity** 5,000 m/s, 40 to 600 inch/ms variable in steps of 1 m/s, 0.1 inch/ms and fixed program
- Display delay** 0 to 1,000 mm, -0.3 to 40" (340 µs)
- Probe delay** 0 to 20 µs
- Auto calibration** automatic and setting of sound velocity and probe delay using two known calibration echoes
- Pulse repetition frequency** 200 Hz
- Damping** 50 ohms, 500 ohms (1,000 ohms in TR mode)
- Pulse repetition frequency** 100 Hz, 200 Hz, 400 Hz, 800 Hz, 1,600 Hz, 3,200 Hz, 6,400 Hz, 12,800 Hz
- Frequency ranges** 0.5 MHz / 0.8 to 8 MHz / 2 to 20 MHz
- Gain** 0 to 110 dB, variable in steps
- Gain Steps** / 2 / 6 / 12 dB (or user-adjustable), step 0 is locked
- Fine gain**, continuously variable in 40 steps

**Rectification** linear, negative and positive half-wave, RF mode

**Rejection** linear, 0 to 80 % screen height Variable in steps of 1 %

**Monitoring gates** independent gates in color bar mode, start and width variable over the entire calibration range

**Sound path measurement** digital measurement path (projection distance, depth) between initial pulse and the first echo

**Measurement resolution** range up to 99.99 mm/ 0.1 mm within a range from 100 to 999.9 mm/ 1 mm at 100 mm

**Amplitude display** height

USM 35X DAC: additionally in dB above DAC or TCG

USM 35X S: additionally in dB above DGS curve or ERS

**Displayed reading** (reduced) projection distance, depth, amplitude for every gate, userconfigurable at 100 mm

**A-scan functions** automatic A-scan freeze, A-scan comparison, echo dynamics (envelope), peak echo

**Color Functions** color-coded display of legs in angle testing, adaptation of background color to the light

**DAC (Option)** DAC and USM 35X S: Distance- Amplitude Curves (DAC) or TCG line (TCG) will

**DGS (Option)** USM 35X S: DGS curves for single-element and dual-element probes (B1S, B2S, B4S, ME

**Display size/resolution** 4.6" x 3.4" (W x H)

320 x 240 pixels

**A-scan size/resolution** 4.6" x 3.2"

320 x 220 pixels (zoom)

**Units of measurement**

**Data memory** measurement setups or reports, including AScans can be stored, recalled, printed or exported

**Direct Documentation** contents, report including A-scan, reading, function list (parameter dump)

**Printer** HP LaserJet, HP LaserJet, HP DJ 1200 (DeskJet), HP LJ 1012 (LaserJet), EPSON FX/LX, SEIKO

**RS 232 interface** bi-directional, 300 - 57,600 baud An USB adaptor cable can be provided to connect

**Input/Output** Lemo-1 socket (trigger output, gate alarm, test data release)

Additional analog output for amplitude or sound path in selected gate

**VGA output** Lemo-1 socket for the connection of an external display screen or beamer

**Probe connections** BNC

**Dialog languages** English, French, Italian, Portuguese, Spanish, Danish, Swedish, Norwegian, Finnish, C

**Battery operation** or 6 C-cells (NiCad, NiMH or AIMn), operating time: 14 hours with Li-ion battery (6

**Power pack battery charger operation** 265 VAC);

Operating voltage: 6 to 12 VDC

Current consumption: max. 9 W, depending on the setting

**Weight** 2 kg, 4.9 lbs., including batteries

**Size** 177 mm x 255 mm x 100 mm, 7.0" x 10" x 3.9" (H x W x D)

**Environmental** class: IP 66 Shock proof acc. to DIN IEC 68: 6 ms, 60 g, 3 shocks per orientation Vib

to DIN IEC 68: 0 - 150 Hz, 2 g, 20 cycles per orientation

Operating temperature: 0° to 60°C; 32° to 140°F (-10°C; 14°F on special request)

Storage temperature: -20° to 60°C; 4° to 140°F

**Data Logger Option**

**Memory Capacity** 5,000 A-scans for the readings, 100 jobs, 10 comment texts per job

**Storage** A-scan readings and sound path differences of all gates, amplitudes (% SH, dB-to-threshold, dB-to-c

**Lines/columns** lines: maximum 5,000 (Linear file with one column), numerical indexing Number of c

**Tolerance monitor** per acceptance level with monitor function

**Minimum reading capture** minimum value measured in continuous scanning, display of the value 3 seconds

**Monitor gate** optional independent gate in color bar mode

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