PROJECT: *E1502 shot-shells quality control data logger.*

Main characteristics:
The BW15 (E1502 project) is a ruggized microprocessor controlled data logger expressly developed for the commercial ammo's quality control.
BW15 is an easy to install and use, low power, small footprint system. Calibration data are automatically loaded from software to minimize errors and to guarantee the linearity in every operating condition. Inputs are compatible with a broad range of external sensor including all of sensors produced by ours company. BW15 have built in power supply for laser illuminator and for barrier pair for the 2.5 velocity measurement,

Key Features: heavy duty, easy to use; stable and accurate measure in any conditions, self check, upgradable firmware to incorporate new features, compatibility with older peripherals for an easy and economic upgrade, standard interface to connect personal computer, fully compliant with ballistics controls commercial (C.I.P.) rules

Man Machine interface : Personal computer connected via serial port / USB to display results and to program and configure data logger .

Main applications & tests:

- ✓ Time & related ballistics data (velocity, energy, momentum etc)
- ✓ rate of fire
- ✓ pressure,

Time

The time acquisition section of the BW15 guarantee a time resolution of approx 1µs, with an error less than +/- 200ppm (10 - 40 °C). System have 5 +2 independent inputs, each input is plugged via a standard 50 Ohm BNC and have the following characteristics:

- can be individually programmed, via software, to trigger signal from high to low transition or from low to high;
- have fixed input threshold for the use of TTL-CMOS input signal or can or programmable (input 1 is only fixed) from 0 to +5 V
- have the ability to selectively disable inputs via software.
- allows input signal span from –0 to + 5 Volts.
- The inputs 4 and 5 are directly compatible with the barriers for the 2.5 meters speed.
- Inputs are compatible with insulated firing pins or piezo transducers used for speed measurements

Two more independent fiber optic input are provided in the FO version. Boot fiber optic input can be used in active mode (with laser) or passive mode to detect shell passage. Like for digital BNC input FO in can be individually programmed to trigger signal from high to low transition or from low to high. The two FO inputs have independent sensitivity setting. Using the programmable trigger voltage on the fiber optics input require to fix the threshold voltage on the BNC input 2 & 3. The latest versions of BW15 enable the use of the fiber optic input to connect muzzle flash detectors and /or 2nd pressure input in the barrel (162mm)

Pressure data acquisition

- Resolution 12 bit programmable rate sample time up to 1 µs (1MSPS)
- Built in charge amplifier
- Software selectable trigger mode: "Pre", "Pre-post", "Post".
- Programmable threshold internal or external triggering mode. In external mode any input of the time acquisition section can be used to start the pressure acquisition.
- Total acquisition time 5ms (at 1MSPS) or longer depending sample rate
- Integrated auto test

Reference signal can be generated by software. A complete set of control led is available on all board to easy control of the system working and the input status.

Software: fully integrated with ours ballistics analysis software. Can be supplied with software driver only for the use with customer's legacy software.

Dimensions :
BW15: 250 x 215 x 100 (mm),.weight approx 3 kg.
Power: 5W max without external units, 25 W max with external barriers

Compliance: fully compliant C.I.P. rules

Data Subject to change without notice

PAINI SISTEMI ITALCACCIA s.r.l.
Electronics & Systems division
43011 BUSSETO (PR) Italy Tel +39. 0524 332150
e-mail: info1@paini-esd.it
URL:www.paini-esd.it

quam ludus durus fuit
duri ludere incipiunt

Painisistemi
Electronics & Systems division