

BALLISTIC DATA ACQUISITION SYSTEM (BDAS) TYPE 680

The MS Instruments PLC Ballistic Data Acquisition System is an integrated unit, which is used to gather data for complete ballistics analysis. Typically, it is used for Electronic Pressure Velocity and Action Time (EPVAT) measurements, however it can be configured in a number of different ways to act as a multi-purpose data-gathering unit. The data is then passed to a Range Processor where it is displayed using BDAS software.



ELECTRONIC PRESSURE VELOCITY AND ACTION TIME (EPVAT)											
M2 Receiver	Yes	Transducer Type	Piezo	Ammunition Calibre	5.56mm	D/Vs At	14	Over a Base of	30	Units	Meters
Barrel No.	33	Chamber Ser No.	1224	Ammunition Type	Ball	Work Lot Number	1111	Chamber Sensitivity	1.422	Port Sensitivity	1.428
Life	loads	Port Ser No.	1421	Reference Lot No.	2222	Filter Frequency (kHz)	22	Pin Position	21	Life	get a
Head Space	Max	Pin Position	21	Life	get a	Ass Systems	DISARMED	Ass Systems			
INDIVIDUAL SHOT RESULTS											
Round No.	Chamber Press (Bar)	Port Press (Bar)	Velocity (Cham (m/s))	Velocity (Cham (m/s))	Action Time	Time	Round type	Temp.	Idag. Cl	Remarks	
13	3425	1195	899.86	906.19	1265	11:08:26	Exposed Desert			52	
14	3305	1154	899.32	899.49	1265	11:08:37	Continuous Arctic			54	
15	3178	1134	907.57	906.86	1265	11:08:49	Unloaded			21	
16	3381	1136	902.7	901.95	1265	11:09:06	Unloaded			21	
17	3331	1138	907.75	906.86	1265	11:09:16	Unloaded			21	
18	3333	1149	899.97	899.86	1265	11:16:43	Warning			21	NEW ammunition type created
SHOT STATISTICS											
Mean	Chamber	Port	V1	V2	Action	Round type	Temp.	Chamber	Port	Velocity	Tolerances
Mean	7	2372.9	972.1	895	904.1	1265 Reference	45	2410	990	3600	+/-250
S.D.	7	57.7	212.9	46.9	46.9	0 Reference	45	1130	990	1270	+/-140
Mean	2	3397.5	1140.5	907.1	906.2	1265 Work (Armsbar)	34				
S.D.	2	118.7	21	3.8	3.8	0 Work (Armsbar)	34				
Mean	3	3286.7	1136	906	905.2	1265 Unloaded	21				
S.D.	3	165.6	2	2.3	2.8	0 Unloaded	21				
Mean	1	3425	1136	907.4	906.5	1265 Continuous Heating	21				
S.D.	1	0	0	0	0	0 Continuous Heating	21				
Mean	1	3425	1146	902.1	902.2	1265 Exposed Desert	52				
S.D.	1	0	0	0	0	0 Exposed Desert	52				
Mean	1	3305	1154	899.3	899.5	1265 Continuous Arctic	54				
S.D.	1	0	0	0	0	0 Continuous Arctic	54				

The Range Processor runs Windows™ operating systems and the BDAS software is a Windows™ program. This allows simple data exchange and provides data in standard Excel™/Access file formats. Having the standard user-interface that is typical in the Windows™ operating system gives a rapid familiarity with the software and consequent reduction in training requirements.

Initial data entry is straightforward and quick and the software is self-arming, allowing largely hands-free operation during use.

All data is safely logged to disk after each round.

This unit has been developed to combine the many useful, individual properties of MSI instrumentation. The resulting sophisticated and versatile product can be utilised in the measurement of velocity and rate of fire of a projectile; port and chamber pressure within the weapon and the

action time. Other timing and data logging functions can also be provided.

Two digital Charge Amplifiers are fitted to ensure that all instrument settings are set electronically and recorded with the data for optimum data integrity.

SPECIFICATION

Standard Specification

A/D card 2 channel 10MHz 12-bit.

Power Supply 85-264v a.c.

Inputs:

6 x 19 pin connector Detector type 858
6 x BNC (TTL) Detector type (make or break screens)
2 x BNC (TTL) Action Time start (firing pin)
2 x BNC (TTL) Action Time stop (firing pin)
2 x BNC (AUX) Analogue inputs (Strain gauge)
2 x BNC Piezo transducers

Filters:

Butterworth (software) 0-500KHz

Environment:

Operating temperature 0°C to + 60°C
Humidity 95% non-condensing

Dimensions:

Size 650mm x 500mm x 150mm
Weight 15Kg