

DOBLE PROTECTION TESTING

F6052

Universal Time Synchronizer

PORTABLE TIME
SOURCE FOR AREAS
RESTRICTED BY SPACE,
DISTANCE & SECURITY

Doble's F6052 is a lightweight, portable time source for when you need a time reference or time stamp, but cannot access reliable time sources or GPS signals. The F6052 keeps its accuracy for over 8 hours and can run on AC or battery power. Use Doble's F6052 in combination with Doble's F-Series Power System Simulators for satellite time synchronization for protection testing in previously inaccessible areas, such as hydro-electric or nuclear facilities, areas with tall buildings, test vaults or locations with line of sight restrictions.

FEATURES

- Maintain accuracies of 200 nanoseconds for over 2 hours and 5 microseconds for over 8 hours with no GPS signal input
- Self-calibrating when connected or with access to a GPS signal
- Rechargeable battery allows operation for 6 hours when no power source available

BENEFITS

- Ideal for use in hydro dams, security restricted substations, nuclear power plants, test laboratories, metropolitan areas and other locations with limited sky availability
- Capable of time synchronization for PMU, IEC 61850, end-to-end scheme testing & telecommunication coordination delays
- Compatible with most types of test equipment, with a variety of outputs for use with old & new devices



F6052 TECHNICAL SPECIFICATIONS

GENERAL SPECIFICATIONS

IPPS Holdover	200 nanoseconds over 2 hours 5 microseconds over 8 hours
Inputs	+5V dc: Mini B USB GPS antenna: SMA Ethernet (PTP & SNTP/NTP): RJ45 10/100 Ethernet (management): RJ45 10/100 1PPS (phase 2): BNC
Outputs	1PPS: BNC 2.048 MHz frequency: BNC G.703 10 MHz frequency: BNC G.703 IRIG-B: BNC RS232: 9 way D-Type 9600 baud RS422: 15 way D-Type 9600 baud Ethernet (PTP & SNTP/NTP) (Max 10 clients): RJ45 10/100 Ethernet (management): RJ45 10/100

CHARGING POWER SUPPLY UNIT

Input voltage	100-240 VAC, 50-60Hz
Input current	250mA AC
Input Power	60VA
Output voltage	+15VDC
Output current	700mA DC
Output power	10.5VA

INPUTS

+15V dc	2.1mm socket
GPS antenna	SMA
1PPS	BNC (available in future release)

OUTPUTS

1PPS	BNC
Frequency 1	BNC G.703
Frequency 2	BNC G.703
IRIG-B	IRIG-B000-000, 004 un-modulated IRIG-B120-120 modulated, 1KHz IRIG-B120 150 modulated, 1MHz IRIG-B120 220 modulated, Manchester coded
RS-232	9 way D-Type 9600 band
Ethernet (F6052 and SNTP/NTP) (Max 10 clients)	RJ45 10/100
Ethernet (management)	RJ45 10/100

ENVIRONMENTAL

Operating temperature:	
Mains powered	0°C to +40°C [32°F to 104°F]
Battery powered	0°C to +50°C [32°F to 122°F]



Doble Engineering Company
Worldwide Headquarters
123 Felton Street, Marlborough, MA 01752 USA
tel +1 617 926 4900 | fax +1 617 926 0528
www.doble.com

Specifications are subject to change without notice.
Doble is an ISO 9001 & ISO/IEC 17025 & 17034 Certified Company.
Doble is an ESCO Technologies Company.
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