

## DOBLE PROTECTION TESTING

# F6053

PTP Subscriber

### MAINTAIN NETWORK TIME SYNCHRONIZATION WHEN USING YOUR DOBLE POWER SYSTEM SIMULATORS



The F6053 is a PTP subscriber for Doble F6150e/sv, F6300e and F6350e, and older F6150 products.

PTP signals enter by Ethernet connection to the F6053 and PPS signals exit the unit through a serial connection to the F6 instrument. Synchronization begins automatically. The LED status indicator flashes green while synchronizing and displays continuous green when synchronization is complete.

Use the F6053 with your F6150sv to subscribe to a Grand Master Clock (GMC) time reference during digital test operations. The F6053/F6150sv combination keeps precise time with IEDs as required for peer-to-peer IEC 61850 GOOSE messaging and Sampled Values data streams.

The F6053 uses the IEEE 1588 protocol to derive an accurate clock. In most cases, the signal the F6053 uses should be within  $\pm 100$  ns of the master clock. The F6053 depends on the accuracy of the master clock, and the IEEE 1588 compliance of all switches in the network to which the F6053 is connected.

## FEATURES

- Complies with IEEE 1588, IEC/IEEE 61850-9-3
- Converts PTP signals to PPS format used by F6 instruments
- Computer connections for setup, control and diagnostics
- Web app for firmware, device and GMC details

## BENEFITS

- Enables test operations compliant with IEC 61869-9 among Doble F6 power system simulators
- Synchronizes Doble F6 instruments to GMC time
- IEC 61850 network interoperability conformance
- Compact size, light weight, straightforward connectivity and operation

## DOBLE F6053 TECHNICAL SPECIFICATIONS

GENERAL SPECIFICATIONS	
LED Indicator	Power PTP synchronization status
Connections	Universal power supply 240/120 V AC (12 V DC adapter) 15-pin (RS-422) serial data port (GPS out) Ethernet port for PTP input from GMC Ethernet port for web app USB port for computer connection
Web App	Firmware updates Parameter configurations IP address and netmask configurations Visibility of subscribed GMC
Temperature	Operating: 0°C to 50°C Storage: -20°C to 80°C
Accuracy	±100 ns @ normal operating range ±500 ns @ high-traffic conditions
Dimensions	Length: 160 mm (173 mm with end caps) Width: 108 mm (114 mm with end caps) Height: 45 mm (51 mm with end caps) Weight: 0.45 kg (16 ounces)
Compliance	IEEE C37.238 Power Profile IEC/IEEE 61850-9-3 Power Utility Profile IEC 61869-9 ROHS FCC Class A CE
Includes	F6053 unit Power supply 6' DB 15-pin M-F serial cable 10' Ethernet cable 6' USB cable Nylon bag (12"x7") F6053 User Manual (online)



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