

# F8000 COMMAND MODULE

Central Communication and Control of F8000 Instruments

The **Command Module** is embedded with each F8000-series chassis and controls all instrument operations from Protection Suite and RTS software. Communication and synchronization functions are hosted, and instrument status is displayed. Connections to other F8000-series instruments are supported and IEC 61850 standard-based protection scheme testing options are available.



## Communications

- 3 x Ethernet ports (10/100/1000 Mbps each)
- 1 x 40 W Power over Ethernet (PoE) port
- 2 x SFP (copper & fiber) ports (1 Gbps each)
- 2 x USB 3.0 ports (types A & C)

## Timing

- Phase voltage line synchronization
- Simple Network Time Protocol (SNTP)

## Time synchronization

- IRIG-B modulated & unmodulated
- IEEE 1588 / IEC 61850-9-3 Precision Time Protocol (PTP)
- GPS at 1 PPS

## IEC 61850

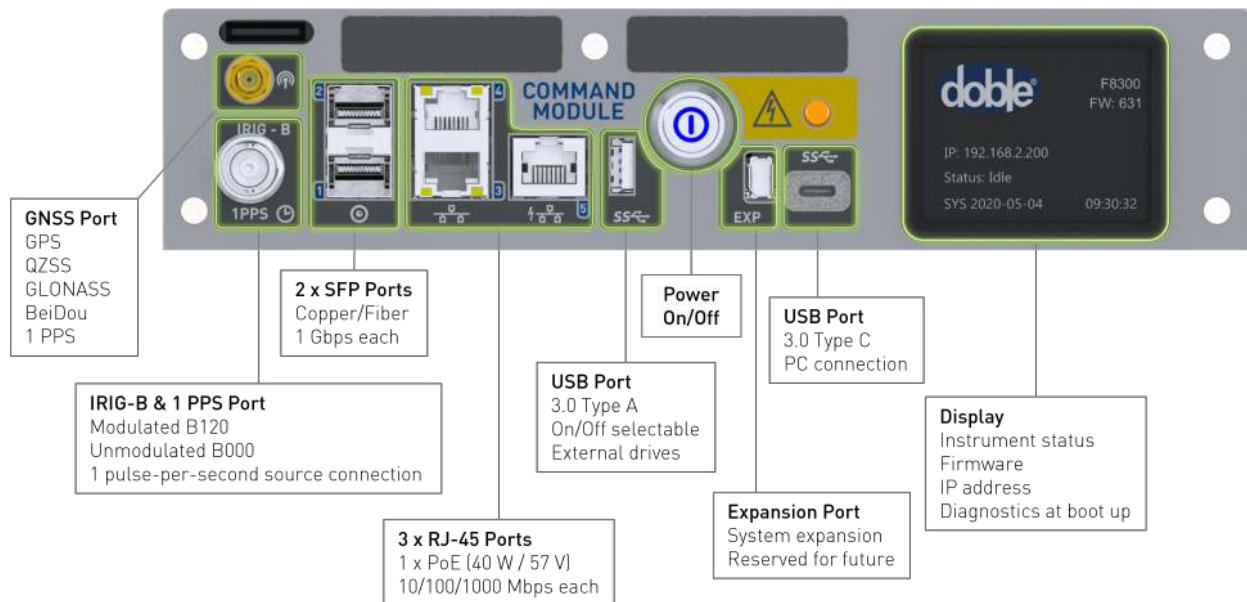
- Sampled Values - IEC 61869-9 & IEC 61850-9-2LE (publishing)
- GOOSE / R-GOOSE (publishing & subscribing)

## Options Available:

- F8860 GOOSE
- F8870 Sampled Values
- F8053 PTP
- F8895 Satellite Receiver Antenna

## F8000 Command Module Technical Data

Communications	Ethernet	3 ports 1 x PoE (Port 5) at 40 W (57 V) 10/100/1000 Mbps each
	USB	1 x 3.0 Type A (on/off selectable) 1 x 3.0 Type C
	SFP	2 ports Copper/fiber selectable 1 Gbps each
IEC 61850	Performance	Type 1A Class P2/3 (IEC 61850-5)
	VLAN Support	Selectable priority and VLAN-ID
	Publishing - Sampled Values	IEC 61869-9, IEC 61850-9-2LE 4 Streams
	Publishing - GOOSE	1024 virtual outputs mapped to GOOSE / R-GOOSE
	Subscribing - GOOSE	1024 virtual inputs mapped to GOOSE / R-GOOSE
Time Synchronization	Global Navigation Satellite Systems	GPS, QZSS, GLONASS, BeiDou, 1 PPS
	PTP	1588 v.2 Power Profile and Power Utility Profile
	IRIG-B	Modulated B120 Unmodulated B000
	SNTP	IP v.4 and IP v.6 Networks
General	Display	Diagnostics at boot up
	Ground Connection	4 mm lighted green/yellow Banana socket on side
	Weight	2.25 lbs. (1.02 kg)



**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](http://www.doble.com)

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