

RG500 Diagnostic SpaceWire Interface (DSI) Datasheet

SpaceWire specification

Item	Detail
SpaceWire compliance	ECSS-E50-12A, ECSS-E-ST-50-12C
SpaceWire speeds	10 – 400 Mbit/s
Data-strobe skew	0.1 ns
Cross triggering between ports	Yes – user defined trigger condition

SMA specification

Item	Detail
SMA configuration	8 physical SMA ports (4 logical SMA channels, supports passthrough or custom termination)
SMA TX channels	2
SMA RX channels	2
SMA voltage range	0.5 – 5 V (users can set hi/low thresholds through API)
SMA TX functions	Trigger on SpaceWire Link Events
SMA RX functions	Output disable on all ports (optional feature) Output enable on all ports (optional feature)

Timestamping specification

Item	Detail
Timestamp sources	Internal timer (TT optional feature), PTP source (PTP optional feature)
Timestamp resolution	8 ns with internal timer
PTP interface	1x SFP+ Gigabit Ethernet link (SFP module supplied with unit as appropriate)

API Ethernet specification

Item	Detail
API interface	1x SFP+ Gigabit Ethernet link (SFP module supplied with unit)
API protocols	ICMP, TCP
Available API libraries	C, C++, Python, Ruby, LabVIEW

Management Ethernet specification

Item	Detail
Management Ethernet interface	1x RJ45 100Base-T Ethernet
Management Ethernet protocols	SNMP, UDP
SNMP functions	System health reporting

Included features

Feature Name	Description
ER – Error Reporting	Users can set error conditions to be reported as EEP. Users can also monitor normally hidden flow control tokens.
EW – Error Waveforms	Users can set a condition that triggers a waveform capture of up to 512 bits.

Optional features

Feature Name	Description
EI – Error Injection	Users can inject EEPs on to a SpaceWire link
TT – Time Tagging	Users can timestamp SpaceWire packets using system internal timer
PTP – Precision Time Protocol	Users can timestamp SpaceWire packets using a PTP source.
TC – Time Codes	Users can SpaceWire time codes to connected nodes
SO – Synchronised Outputs	Users can queue traffic for simultaneous output
CO – Controlled Outputs	Users can queue traffic for output triggered by an SMA event
OE – Output Enable	Users can enable all SpaceWire outputs on an SMA trigger condition.
OD – Output Disable	Users can disable all SpaceWire outputs on an SMA trigger condition.

Power specifications

Item	Detail
Power supply	12V external DC power brick (included)
Nominal power draw	23W
Available mains leads	UK, US, EU

Get in touch

All enquiries, please contact us at sales@4links.space

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