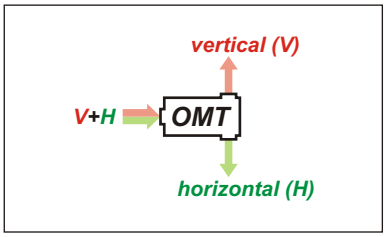
GRANTE

Orthomode Transducers

11 … 40 GHz

Introduction

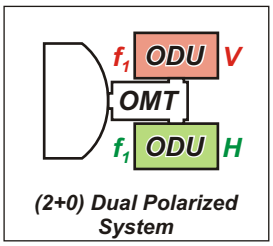
Orthomode Transducers (OMTs) are 3-port microwave waveguide systems that split the input power into two parts (based on polarization separation), consequently, allow the simultaneous operation of two outdoor radio units (ODUs). Since the devices provide high inter-port isolation and low return loss, their application together with high performance antennas lead to use of two independent transmission channels on a single antenna at the same time.



Orthomode transducers separate horizontal and vertical polarizations

Application

Orthomode Transducars can be directly mounted on antennas that have circular waveguide connector. Interfaces are available for several types of antennas from several manufacturers.



Transmission capacity is doubled using OMT

The interfaces on the ODU side are upon customer's request: direct mounting for any ODU type, coaxial cable connector, standard waveguide flange, or any special request is available.

(2+0) system outdoor units directly mounted on the OMT+antenna system

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Orthomode Transducer Specification

	OMT 110 2ODU	OMT 130 2ODU	OMT 150 2ODU	OMT 180 2ODU	OMT 230 2ODU	OMT 260 2ODU
Electrical Specification						
Operating Frequency Band	11 GHz	13 GHz	15 GHz	18 GHz	23 GHz	26 GHz
Operating Frequency Range	10.700–11.700 GHz	12.750–13.250 GHz	14.200–15.350 GHz	17.700–19.700 GHz	21.200–23.600 GHz	24.500–26.500 GHz
Insertion Loss	0.6 dB	0.6 dB	0.6 dB	0.6 dB	0.6 dB	0.8 dB
Isolation inter-port	40 dB	40 dB	40 dB	40 dB	40 dB	38 dB
Return Loss	–19.1 dB	–19.1 dB	–19.1 dB	–19.1 dB	–19.1 dB	–19.1 dB
Interface [1] antenna side	Upon Customer's Request					
Interfaces [2] ODU side	Upon Customer's Request					
Mechanical Specification						
Net Weight [3]	3.4 kg	3.4 kg	3.4 kg	3.4 kg	3.4 kg	3.4 kg
Material						
Material	Aluminium	Aluminium	Aluminium	Aluminium	Aluminium	Aluminium

	OMT 280 2ODU	OMT 320 2ODU	OMT 380 2ODU
Electrical Specification			
Operating Frequency Band	28 GHz	32 GHz	38 GHz
Operating Frequency Range	27.500–29.500 GHz	31.000–33.400 GHz	37.000–39.500 GHz
Insertion Loss	1.0 dB	1.0 dB	1.0 dB
Isolation inter-port	36 dB	36 dB	36 dB
Return Loss	–19.1 dB	–19.1 dB	–19.1 dB
Interface [1] antenna side	Upon Customer's Request		
Interfaces [2] ODU side	Upon Customer's Request		
Mechanical Specification			
Net Weight [3]	3.4 kg	3.4 kg	3.4 kg
Material			
Material	Aluminium	Aluminium	Aluminium

[1] *Direct mounting is possible for several types of antennas (from several manufacturers) with circular waveguide connector.*
[2] *Coaxial cable connector, standard waveguide flange or any ODU interface is available upon request.*
[3] *Approximate value (net weight depends on the required interfaces).*

GRANTE Orthomode Transducer

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Ordering Information

Orthomode Transducers

Product Identification

OMT 380 2F G

1	2	3	4

1 **Product Type** *OMT* – Orthomode Transducer

2 **Frequency Band** Operational frequency in GHz, multiplied by 10.
If the operational frequency range is not commonly used,
the minimum and the maximum operational frequency is indicated here.

3 **Interface at ODU side** Number and type of connecting interfaces.

A	– Alcatel Interface
C(IP10)	– Ceragon IP10 Interface
DW	– DragonWave Horizon Interface
RAU2	– Ericsson Mini-Link Interface (RAU12 = RAU1&RAU2)
RR1/RC1	– Remec RR1/RC1 Interface (Huawei, Sagem)
I	– Intracom Intralink Interface
SW	– ISKRA (SparkWave) Interface
NEC	– NEC Pasolink Interface (for most recent and/or most popular NEC ODU) Please note that this field requires further specification in some cases (e.g. at lower frequencies).
V23	– NEC Pasolink Interface (V23 = V2&V3)
F	– Nokia Flexihopper Interface
SIAE	– SIAE Interface
S4	– Siemens S4 Interface
…	– Standard Waveguide Flange (according to IEC 60154-2) Flange material (aluminium or brass) has to be specified.
etc.	– Any other interface is available upon request.

4 **Interface at Antenna Side** *G* – GRANTE Interface
The OMT is directly mounted on GRANTE antenna.
The fixing elements of the OMT are the same as for the ODU.
etc. – Any other interface is available upon request.
For example: Sagem antenna interface with NEC ODU interface.

Examples

OMT 380 2F G

OMT	– Orthomode Transducer
380	– frequency band: 38 GHz frequency range: 37.000 – 39.500 GHz
2F	– two Nokia FlexiHopper ODU interfaces
G	– GRANTE antenna interface with FlexiHopper fixing elements

OMT 180 2NEC R

OMT	– Orthomode Transducer
180	– frequency band: 18 GHz frequency range: 17.700 – 19.700 GHz
2NEC	– two NEC ODU interfaces (currently: NEO)
R	– RFS antenna interface with NEC fixing elements (e.g. SBX1-190B NEC)

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