

## KEY DISTRIBUTION

## FOR A SECURE DIGITAL TOMORROW

Quantum key distribution (QKD) allows two legitimate parties (Alice and Bob) to generate a secret key using the laws of quantum mechanics, to protect highly sensitive information in the presence of eavesdropper (Eve). This key can be used to encrypt and decrypt messages to ensure fool proof security in data transmission.

Securing

Data Communication Channel USING QUANTUM MECHANICS



## TECHNICAL SPECIFICATIONS FOR C-DOT QKD SYSTEM:

Protocol	Differential Phase Shift (DPS), Coherent One-Way (COW)
Quantum Bit Error Rate (QBER)	< 5%
Secure Key Rate (@23 dB loss)	> 2 kbps for DPS*
	> 1 kbps for COW
Quantum Channel Wavelength	C-Band
Classical Channel Interface	SFP (Optical)
Classical Channel Loss (Max)	30 dB
Quantum/Classical Channel Fibre	Single Mode Fibre (SMF) ITU-T G.652.D
Entropy Source	Quantum Random Number Generator (QRNG), compliant with
	NIST 800-90A/B/C standards OR
	True Random Number Generator (TRNG) implemented in the
	Field Programmable Gate Array (FPGA)
Key Transfer Interface	USB/Ethernet
Key Transfer Protocol	REST-based API (compliant with ETSI GS QKD 014)
Operating Temperature	10 to 25 Deg C
Detector Type	Single-Photon Avalanche Diode (SPAD)
Power Consumption	Alice/Bob 250 W
Power Supply	Single 230 V AC @ 50 Hz
System Dimension	19" rack mountable, 2U height
System Certification	Conforms to TEC GR 91000:2022
	Certificate No: 2-5/2023-6GT/TEC

\*DPS protocol tested with up to  $\sim 30~\text{dB}$  loss with a reduced key rate

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