




Homologação
04948-16-08437  ANATEL

The EDGE-70R-M Reader has the technology and performance of the M6e Micro UHF RAIN RFID Module with the robustness of an industrial equipment in a single reader, designed to withstand the harshest environments, it is ideal for vehicle identification systems, mainly in toll applications.

Advanced technology and exceptional performance of the M6e Micro Module;

Robustness and durability of an industrial equipment designed to withstand harsh environments;

IP66 protection rating for installation in outdoor environments;

Advanced security features to protect data integrity;

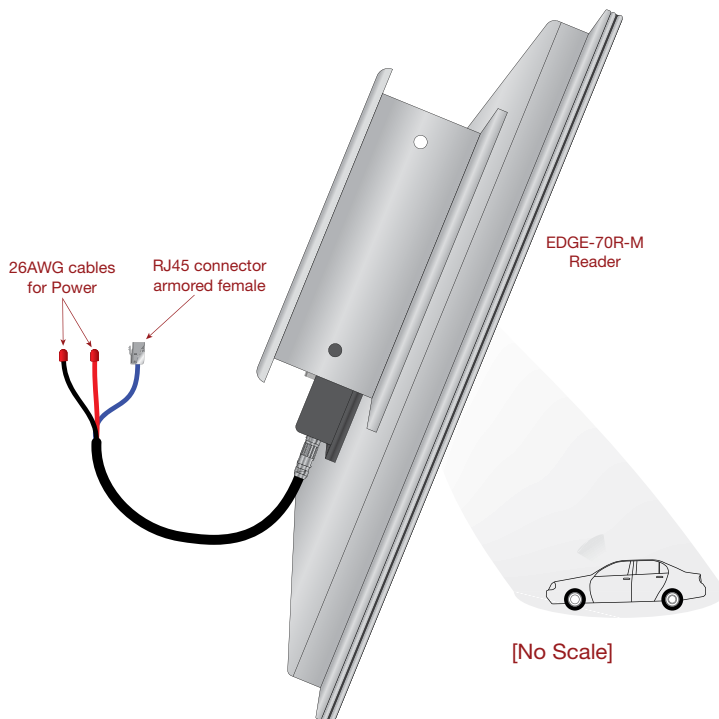
Ideal for vehicle identification systems, offering accuracy and reliability;

Specially developed for toll applications, ensuring quick and efficient reading;

Ethernet connection for integration and data reception.



General Diagram



Protocols

SINIAV G0 v.1.0.01

ARTEFATO PA SJ5511 v.1.01¹

BRASIL-ID P63
EPC Gen2 (ISO 18000-6C)
ISO 18000-6B

Implemented and tested custom commands

Artefato Protocol PA SJ5511

Activate_Secure_Mode
Authenticate_OBU

Siniav G0 Protocol

Activate_SINIAV_Mode
OBU_Auth_ID
OBU_Auth_Full_Pass1 OBU_Auth_Full_Pass2
OBU_Auth_Full_Pass (Pass1 + Pass2)
OBU_ReadFromMemMap
OBU_WriteToMemMap

Brasil-ID P63 Protocol

ReadSec | WriteSec

EPC Gen2 (ISO 18000-6C)

All mandatory commands (Read, Write, Lock, ReadMemBlock, WriteMemBlock, etc)

RF output power

Separately configurable read and write power from 5 to 30 dBm with 0.5 dBm increment above +15 dBm²

Regulation

ANATEL (BR) 902-907,5 MHz and 915-928 MHz



Mode	Frequency Hopping or Fixed Frequency (Table of configurable frequencies)
RF Modulation	PR-ASK
RF Coding	FM0, Miller M2, M4 and M8
Backscatter Link Frequency (BLF)	250 kHz, 320 kHz and 640 kHz
Reading rate	Up to 750 tags / second (Using high performance settings)
Read distance	Over 12 meters using built-in 14.5 dBi antenna (36 dBm EIRP) ³

Connectivity

Data communication	Ethernet: 10/100 Mbps communication speed 1.5 kVCA galvanic isolation. Surge protection (Overvoltage and Overcurrent) with coordinated circuit GDT - TBU - TVS
Programming	API SDK (Software Development Kit) free of charge in the following languages: C#/ .Net, Java, C (Sample source codes and demo software provided)

Environment Test

Low temperature: IEC 68-2-1 (72h -55°C)
 High temperature: IEC 68-2-2 (72h +71°C)
 Temper. cycle: IEC 68-2-14 (1h -45°C +71°C)
 Vibration: IEC 60721-3-4 (30min/axle 4M3)
 Mechanical shock: IEC 60721-3-4 (4M3)
 Relative humidity: ETSI EN300-2-4 T4.1E (144h 95%)
 Water resistance: IEC 529 (IP64)
 Solar radiation: ASTM G53 (1000h)
 Wind speed: Operation: 160 Km/h / Supported limit: 220 Km/h
 Wind load (supported limit): Front part: 58.3 Kg / Side part: 3.9 Kg

Environmental

Operating temperature	-10°C to + 65°C
Storage temperature	-10°C to + 70°C
Operating Humidity	95%
IP Rating	IP66 (with the M23 connector properly connected to the reader)



Electrical

Operating Voltage	Input voltage: 24 VDC \pm 1% Maximum Ripple: 200 mVpp
Consumption	Maximum 15 W. With maximum read power of 30 dBm and high duty cycle

Physical

Integrated antenna	Horizontal linear polarization
Dimensions	900 x 550 x 40 mm
Weight	10 Kg \pm 0,5 Kg

Integrated Antenna

Frequency	902 – 928 MHz
Gain	14,5 \pm 0,5 dBi
Return Loss	-12 dBm (máx.)
Beam opening 3dB	22° \pm 1,5° (Azimuth) / 34° \pm 3° (Elevation)

Polarization	Linear Horizontal
Level of side lobes	-18dB (max)
Front/Back ratio	-25dB
Input impedance	50 Ohms
Input power	6W (max.)
Lightning protection	DC grounding
Material	Front: Sturdy plastic Back: Aluminum
Operating Temperature	-10°C to + 65°C
Storage Temperature	-10°C to + 70°C
IP rating	IP64

¹ Brazilian protocol standards for toll and supply chain applications.

² The maximum power must be reduced to respect the regulatory limits in the region, depending on the combination of reader, antenna, cable etc.

³ Reading distance may vary depending on tag, cable and reader usage environment.

Purchase Code:

100.373: Leitor UHF ACURA EDGE-70R-M

Items Purchase Codes:

100.431: Cabo Edge-60R-M 60 m TCP/IP | 100.377: Cabo Edge-60R-M 35 m TCP/IP | 100.595: Cabo Edge-60R-M 40 m TCP/IP | 100.679: Cabo Edge-60R-M 30 m TCP/IP | 100.598: Cabo Edge-60R-M 5 m TCP/IP | 100.593: Cabo Edge-60R-M 10 m TCP/IP | 100.617: Cabo Edge-60R-M 26 m TCP/IP | 100.499: Cabo Edge-60R-M 50 m TCP/IP