HARTING MICA® Basic Ethernet Starter Kit

Advantages

- All hardware and software components included to start your industrial digital retrofit application in under 10min

- Built and Tested in accordance to industry transportation standards for the harshest conditions

- Embedded non-proprietary vendor agnostic, open dynamic, scalable future proof middleware software stack architecture

- Robust, adaptable, upgradeable hardware

- IP-rated Industrial connectors

- Power over Ethernet 48 V PoE or 12/24 V DC for quick network deployment

- Integration of IP and non-IP devices creating an open best of breed architecture at the edge level

General description

- MICA is an extremely robust IoT edge computer hardware/software that is engineered and designed to meet the standards, and requirements for critical infrastructures in Data Centers, Automation, Oil & Gas, Industrial Automation, Facilities, and Healthcare environments. MICA is tested in accordance to IP67 standards providing a modular world class hardware chassis.

- MICA hardware components are carefully engineered for an extensive life cycle in critical and harsh environments where reliability and uptime are crucial.

- MICA modular hardware and software design enables IoT architects, Integrators, development engineers and end-users, to unleash their systems potential. This is accomplished through a powerful blend of a web-based non-proprietary open source architecture.

- MICA applications include, Asset Tracking, Condition Monitoring/Control, and System Integration-Digital Retrofits/migrations of proprietary protocols.

Technical characteristics (MICA)

System performance	1 GHz ARM processor
	1 GB RAM
	4 GB eMMC
	up to 32 GB Flash (via Micro SD Card)
Interfaces	Ethernet (TCP/IP) 10/100 Mbit/s; Full Spec. 802.3
Inputs / Outputs	up to 8 configurable IOs (12 / 24 V)
Power supply	
Power supply	12 / 24 V DC (± 5 %) / Power over Ethernet (PoE)
Current consumption	max. 500 mA
Diagnosis (LED)	2 LEDs to visualize the device status
Protocol	Embedded middleware functionality 1.1 standard
	— Web services
	— http telegrams
	— TCP telegrams
	— UDP telegrams
	— MySQL database support
	— MQTT
Operating system	Linux (Kernel 3.x.x)
Design features	
Material of housing	corpus: Aluminum, powder coated
	front cover: fiberglass reinforced high performance plastic
Dimensions (W x H x D)	132 x 86 x 35 mm
Installation on DIN rail	DIN rail mounting kit (see optional accessories)
Environmental conditions	
Operating temperature	-25 °C ... +75 °C
Storage temperature	-25 °C ... +85 °C
Relative humidity	5 % ... 95 % (non-condensing)
Vibration	EN 60 068-2-6
	10 Hz to 150 Hz: 0.075 mm / 1g
Shock	EN 60 068-2-27
	Acceleration: 30 g
Standards & Certifications	
EMC	EN 301 489
Low voltage	EN 60 950
Human exposure	EN 50 364
RoHS compliant	
Railway	tested according to EN 50155 (Q2 2016)

HARTING MICA® Basic Ethernet Starter Kit

Description	Part number	Drawing	Dimensions in mm
HARTING MICA Basic Ethernet Starter Kit	73460000005		
Kit Components:			
HARTING IIC MICA Basic	2095000000300		
M12 X coded PushPull cable assembly,1m	09488223756010		
M12 Cable Assembly A-cod st/- m/- 1,0m	21348400C79010		
12V, 1A Power Supply			

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HARTING MICA® Basic Ethernet Starter Kit
Setup Guide

Abstract

The HARTING MICA Basic Ethernet Starter Kit is designed to give you a jump start in developing Industry 4.0 digital retrofit applications. It is ideal for those who are looking to connect periphery devices through Ethernet that may communicate over protocols such as Modbus-TCP or OPC UA. The kit contains all of the cabling required to get started and a basic version of the HARTING MICA and software. Like with all the other starter kits, this kit comes equipped with Fast-Ethernet capabilities, 8 digital GPIO ports, and the ability to be powered over PoE or 12V/24V. This document will guide you through the necessary steps of setting up your HARTING MICA.

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Contents:

Parts Included

# on Photo	Part Number	Description
1	2095000000300	HARTING MICA® Basic
2	20932010504	M12 X coded PushPull LAN-cable
3	21348400C79010	M12 A coded GPIO-cable
4		12V 1A Power Supply

1   Getting started

1.1   Hardware setup

To get started with the HARTING MICA, follow the instructions below:
1.   Connect the M12 I/O connector of the GPIO-cable to the MICA I/O socket.
2.   Connect the Barrel Jack of the GPIO-cable to the Power Supply (connected to a wall outlet).
3.   Connect the M12 PushPull connector of the LAN-cable to MICA PushPull socket.
4.   Connect the RJ-45 Ethernet connector of the LAN-cable to your PC or Switch.

The I/O LED will light up red while the MICA is booting up. When the I/O LED turns green, the MICA has booted up. The PoE LED will flicker orange indicating data is being transferred.

1.2 Connecting to the web interface

As soon as you have connected your MICA to your Network or PC and your MICA has fully booted up, you can now log into the device. You will need to change the static ip address of your personal computer to be within the range of the MICA. Because the MICA's ip address defaults to 10.10.10.10, the static ip of your machine should be 10.10.10.x (e.g. 10.10.10.121) with a subnet of 255.255.255.0. Next, open your browser and enter: https://10.10.10.10. Alternatively the MICA is reachable at: https://<device-name>.

> **i** The device name along with your login password, MAC address, and serial number (S/N) can be found on your MICA's product label.

When you first attempt to access the MICA in your web browser, you may receive a certificate/security notification. This is actually expected behavior, because there is not a registered security certificate associated with the webserver on your MICA. You can safely ignore this warning and proceed to the MICA's website. The login screen should appear where you can enter the credentials shown on the MICA's product label.

> **i** For directions on adding a certificate, consult the associated Programming Guide or contact MICAUSA@HARTING.com.

Next Steps

For whatever application you have in mind, HARTING MICA has the tools for you to build software to reach your end goal. One of the most powerful tools provided is the NodeRed container. The GPIO port on the MICA can be controlled via NodeRed, and most internet based protocols are also supported.

For ideas or support on how to continue developing your application, refer to the tutorials and examples at HARTINGMICAStarterKits.com or don't hesitate to reach out!

Email: micausa@HARTING.com | Phone: +1 (866) 278-0306

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Pushing Performance

Get started and register your
MICA Starter Kit @
HARTINGMICAStarterKits.com