Nihon Kasetsu

ADC hub

Nihon Kasetsu Monitoring

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DATASHEET

Analogue to digital serial communication

ADC Hub is an **analogue to serial communication converter** where up to **4 analogue sensors** can be connected.

The ADH Hub converts these analogue signals into a robust serial digital stream with an RS485 interface, reducing the impact of the electromagnetic noise in signal transmission and allowing long connection distances.

These features make the ADC Hub a key accessory to the NIHON KASETSU Monitoring System.

Main features

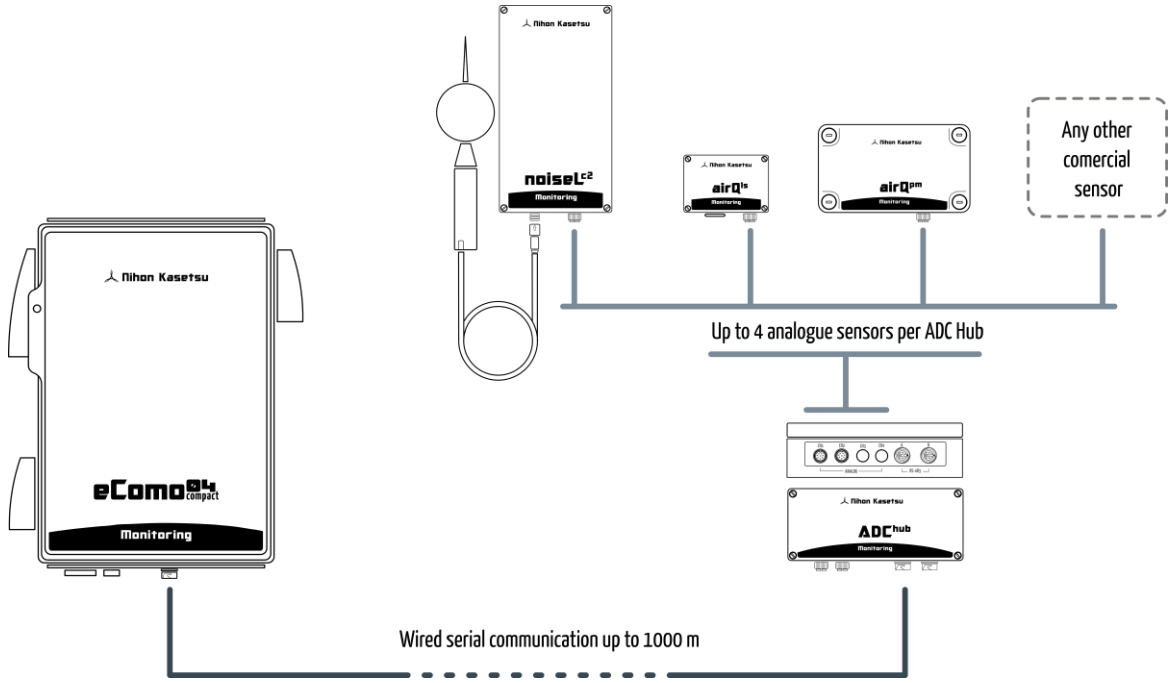
- **Cover longer distances**
  Standard up to 100 m between units. Up to 1200 using additional power supply.
- **Link up to 32 channels**
  From 2 to 4 analogue channels available per ADC Hub.
- **Sensors powered by the ADC Hub**
  5 V, 6 V, 9 V & 12 V DC@1A levels available in the ADC Hub
- **Shielded lines**
  Protected from electromagnetic noise.
- **Robust design**
  Heavy-duty IP-65 casing and military type connectors.

Compatibility with all NK sensors range as well as with any commercial sensor

Cases

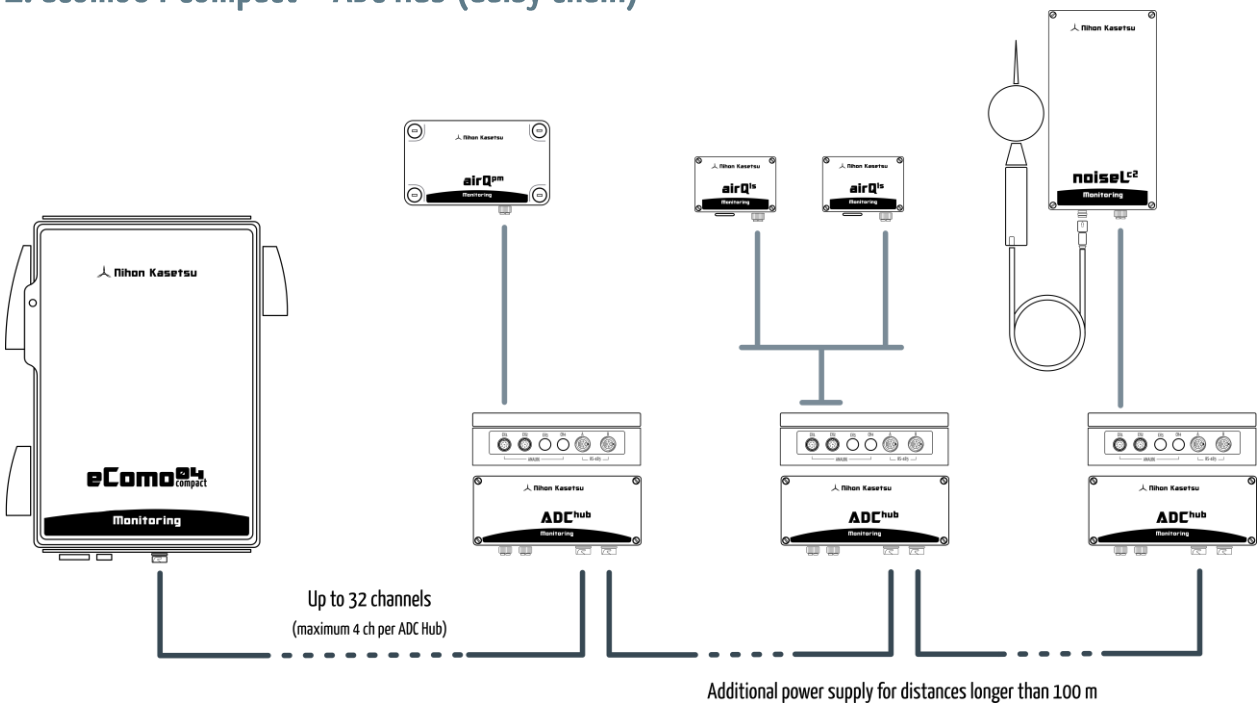
The diagrams below show the different topologies using ADC Hub units, eComo04 Compact and analogue sensors.

1 . eComo04 Compact + ADC Hub



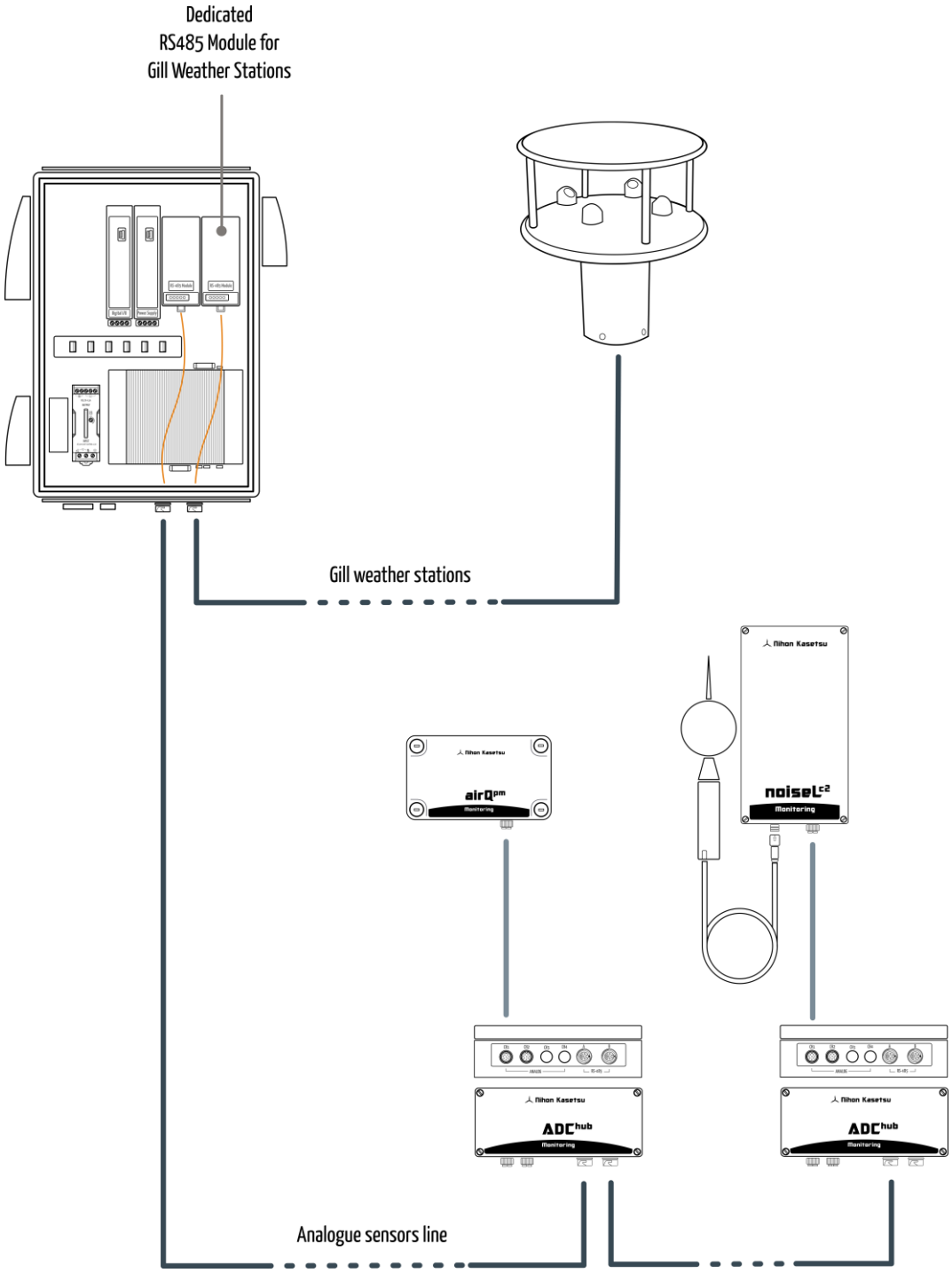
eComo04 Compact power supplies the ADC Hub unit, there the ADC Hub power supplies the sensors connected with 5, 6, 9 or 12 V DC. Each ADC Hub unit has 2 channels available. The number of channels can be expanded up to 4.

2. eComo04 Compact + ADC Hub (daisy chain)



The ADC Hubs are linked using the RS485-B connector to the next RS485-A connector. The maximum number of channels is limited to 32. Each ADC Hub can use its 4 inputs. This configuration is called the "daisy chain". eComo04 Compact power supplies all the units for lines under 100 m.

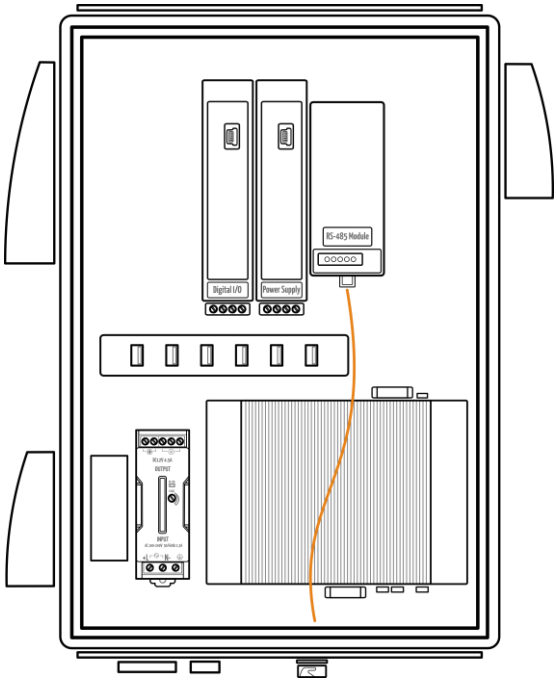
3. eComo04 Compact + ADC Hub + Digital stream output sensor



In order to connect to the monitoring system a sensor whose output is a digital stream, it will be needed the addition of a second RS485 Module. This is the example of the Gill Weather Stations.

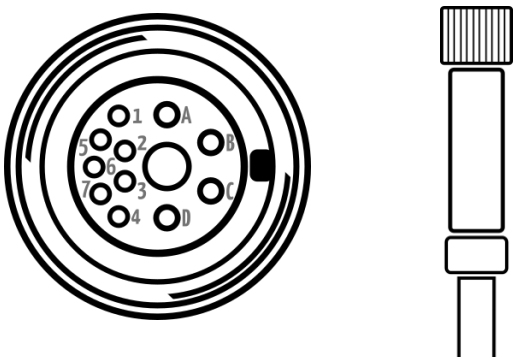
Inside the eComo04 Compact

New ADC Module



The ADC Module adds serial communication features to the eComo04 Monitoring unit. This new module is fully compatible with previous versions, and can be installed in any eComo Monitoring unit, allowing the reception of data streams coming from smart sensors through RS485 protocol.

Serial communication connector



Pin connections:

1. TX (+)
2. TX(-)
3. RX(+)
4. RX(-)
5. NC
6. GND 485
7. GND Shield

A. DC12(+)
B. DC12(-)
C. DC24(+)*
D. DC24(-)*

* Optional. Standard version does not include 24V

Specification

POWER SUPPLY		
Maximum consumption power	12	W
Power supply voltage	12	VDC

INPUT			
Channels	2 ÷ 4		
Resolution	24	bits	
Sampling frequency	1	Hz	
Precision	1	mV	
Input type	Voltage	0 ÷ 5	V DC
	Loop current	4 ÷ 20	mA DC

AVAILABLE SUPPLIES		
Power supply voltage	5	VDC
	6	
	9	
	12	
Maximum current supply	1	A

OUTPUT		
Channels	2 (for daisy chain connection up to 32)	
Serial communication	Simple serial stream	
Compatibility	NMEA - Gill weather stations (other protocols may need development)	
Transfer speed		Baud rate

KEY SPECIFICATIONS		
Temperature range	-30 ÷ 40	ºC
Pressure range	80 ÷ 120	kPa
Humidity range	15 ÷ 85	% rh continuous
IP	65	
Dimensions	230 x 100 x 70	mm
Weight	0,6	Kg

eComo System

ADC Hub is designed to reach its highest performance with **eComo04** and the rest of NIHON KASETSU Monitoring product range. You can check our sensor catalogue at our website or ask for information in the email below.

ONLY PREMIUM COMPONENTS INSIDE

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