

SH ARC-Mx-HUB

Modular ARCNET hubs
with 3 or 5 ports



Scope of application

The maximum length of a network segment is limited by the transfer method used when implementing ARCNET networks. Amplifiers (hubs) can connect several segments in series to expand networks. However, bit jitter and the regeneration of signal levels and signal shapes are important in this case. Although common hubs regenerate signal levels they do not reduce but even increase bit jitter. While the SH ARC-Mx-HUB regenerates signals and reduces bit jitter. With their very short transfer time of less than 3 bits, multiple SH ARC-Mx-HUBs can be cascaded as long as the timeout conditions of connected ARCNET nodes are met. Further areas of application of the SH ARC-Mx-HUB are:

Linking different signaling standards

In ARCNET networks with different physical transfer standards repeaters will interconnect the signaling variety. The SH ARC-Mx-HUB is modular with any interchangeable network interfaces; it can also be retrofitted. In this way you can implement junctions between coaxial, RS485 and various fiber optic networks without problems.

Implementing stub cables

Depending on the spatial order of the network participants you may connect participants to the next segment via so called stub cables. For that you may equip the SH ARC-Mx-HUB – beside its function as a repeater – with an additional third channel. The use of the SH ARC-Mx-HUB is less expensive than a regular hub.

Key features

- Automatic baud rate recognition and adaption
- Various diagnosis LEDs
- EMC-safe
- Desktop version with 115/230 VAC power supply or DIN mounting bracket module with 24 VDC power supply

Specification

Compatibility	ANSI/ATA 878.1, CE
Power consumption	max. 8W / 12W
Temperature range, operation	0°C to +55°C
Temperature range, storage	-20°C to +85°C
Dimensions (w/h/d), in mm	148/68/106 or 200/68/106 (without connectors)
Weight	600g or 900g without packaging and modules

Diagnosis LEDs

Recon LED	Indicates the port receiving a RECON burst.
Alert burst error LED	Indicates ARCNET telegram headers deviating from the spec.
Lock LED	Indicates a correctly recognized data rate
HIT error LED	Indicates transceiver malfunction
Coax disable LED	Indicates disabled coaxial transmission provoked by inapt data rates to protect transceivers
TX-error LED	Indicates transmission errors due to unspecified data rates or non-comforming ARCNET nodes

Design & Functionality

The SH ARC-Mx-HUB is completely digital based on state-of-the-art PLD technology. ARCNET signals are checked and regenerated; signal levels are restored and the cycles reestablished. This will regenerate even very distorted signals.

The baud rate used in the network is automatically recognized and set.

All interface modules, power supply and control logic come as plug-in modules and can be combined as required. The device will be configured at your request free of charge. Housing and front plates are made of aluminum. This and other structures protect the device excellently from electro-magnetic interferences and emissions. The devices come with a power supply for 115/230 VAC or for 24 VDC depending on your order.

Order Information

Product name	Short description
SH ARC-M3-HUB-AC	Three channel ARCNET hub, AC power supply, for interface modules type „M“ ¹⁾
SH ARC-M3-HUB-DC	Three channel ARCNET hub, DC power supply, for interface modules type „M“ ¹⁾
SH ARC-M5-HUB-AC	Five channel ARCNET hub, AC power supply, for interface modules type „M“ ¹⁾
SH ARC-M5-HUB-DC	Five channel ARCNET hub, DC power supply, for interface modules type „M“ ¹⁾

¹⁾ Interface module must be ordered separately.

User manual and power cable (only by AC-model) are included with "SH ARC-Mx-HUB".

Interface modules type "M"

Product name	Bit rate	Signal	Socket	Cable type
SH KOAX-M	2.5 Mbit/s	sine dipulse	BNC	coaxial cable RG-62
SH LWLSMA-M	up to 2.5 Mbit/s	optical	FSMA	multi-mode fibers
SH LWLST-M	up to 2.5 Mbit/s	optical	ST/BFOC	multi-mode fibers
SH LWLTOS-M	up to 2.5 Mbit/s	optical	TODX296/TOSLINK	multi-mode fibers
SH RS485-M	up to 10 Mbit/s	RS-485/EIA-485	DE-9/D-Sub	twisted pair cable
SH RS485AC-M	2.5–10 Mbit/s	RS-485/EIA-485 ²⁾	RJ45	twisted pair cable
SH TWP-M	2.5 Mbit/s	sine dipulse	RJ45	twisted pair cable

²⁾ RS-485/EIA-485 via signal transformer (AC coupled).

Please feel free to contact as for customized interface modules.