

Preface

Purpose of the operating instructions

These operating instructions contain information with which you can install and connect the SCALANCE device correctly. The configuration and the integration of the device in a network are not described in these instructions.

Scope of validity

These operating instructions cover the following products:

Product	Description	Article numbers
SCALANCE M874-2	Mobile wireless router for 2G (GPRS/EDGE)	6GK5874-2AA00-2AA2
SCALANCE M874-3	Mobile wireless router for 3G (HSPA+)	6GK5874-3AA00-2AA2
SCALANCE M876-3	Mobile wireless router for 3G (HSPA+) with antenna diversity	6GK5876-3AA02-2BA2 6GK5876-3AA02-2EA2 (ROK)
SCALANCE M876-4	Mobile wireless router for 4G (LTE) with antenna diversity	6GK5876-4AA00-2BA2 (EU) 6GK5876-4AA00-2DA2 (NAM)
	Mobile wireless router for 4G (LTE) optimized for worldwide use	6GK5876-4AA10-2BA2

These operating instructions apply to the following firmware version:

- SCALANCE M-800/S615 version 7.2 or later

Designations used

Classification	Description	Terms used
Product line	For all devices and variants of all product groups within the SCALANCE M-800 product line, the term M-800 is used.	M-800
Product group	For all devices and variants of a product group, only the product group is used.	M874 stands for M874-2 and M874-3 M876 stands for M876-3 and M876-4 M87x stands for M874-2, M874-3, M876-3 and M876-4
Device	For a device, only the device name is used.	M874-2 M874-3 M876-3 M876-4

8.5 SCALANCE M876-4 (NAM)

M876-4	
Monitoring / diagnostics / maintenance	• LEDs Display of operating statuses via the LED display. You will find additional information on this in the operating instructions of the device. • Logging Events can be logged for monitoring. • SNMPv1/v2/v3 For monitoring and controlling network components such as routers or switches from a central station.
Other functions	• Time-of-day synchronization – NTP client and NTP server – Secure NTP server – SIMATIC time client – SNTP client • DHCP – DHCP server (local network) - Virtual networks (VLAN) To structure Industrial Ethernet networks with a fast growing number of devices, a physical network can be divided into several virtual sub-nets • Digital input/digital output • Dynamic DNS client • DNS client and DNS proxy • SMTP client

8.5 SCALANCE M876-4 (NAM)

M876-4 (NAM)		
Article number		6GK5876-4AA00-2DA2
Ethernet interface		
Connection to Industrial Ethernet	Quantity	4
	Design	RJ-45 jack Characteristics: • 10/100BASE-T • Ethernet IEEE 802.3 • 10/100 Mbps
Wireless interface		

M876-4 (NAM)		
Antenna connector	Quantity	2 A1: Main antenna A2: UMTS: RX diversity LTE: RX MIMO
	Design	SMA socket (straight)
	Impedance	50 Ω nominal
	Antenna cable	Cable length < 30 m
Frequency bands	LTE	700 MHz, 850 MHz, AWS-1 (1700/2100) MHz, 1900 MHz
	UMTS with HSPA+	850 MHz, AWS-1 (1700/2100) MHz, 1900 MHz
	GSM	850 MHz, 900 MHz, 1800 MHz, 1900 MHz
LTE	Transmission speed	- Downlink: up to 100 Mbps - Uplink: up to 50 Mbps
UMTS with HSPA+	Transmission speed	- HSDPA (downlink): up to 14.4 Mbps - HSUPA (uplink): up to 5.76 Mbps
EGPRS	Properties	Multislot class 12, end device class B - Coding scheme downlink: CS 1 ... 4, MCS 1 ... 9 - Coding scheme uplink: CS 1 ... 4, MCS 1 ... 9
	Transmission speed	- Downlink: up to 237 kbps: - Uplink: up to 237 kbps:
GPRS	Properties	Multislot class 12, end device class B, coding scheme 1 ... 4
	Transmission speed	- Downlink: up to 85.6 kbps. - Uplink: up to 85.6 kbps.
GSM (CSD dial-in)	Properties	Radio Link Protocol (RLP) V.110, non-transparent
	Transmission speed	up to 14.4 kbps
SMS (TX)	Properties	Text mode, SMSoverIP
Electrical data		
Power supply	Quantity	1
	Design	Terminal block, 5-pin
	Properties	Input voltage: 12 to 24 VDC - min. 10.8 VDC, max. 28.8 VDC Maximum power consumption 8 W Maximum cable length < 3 m

8.5 SCALANCE M876-4 (NAM)

M876-4 (NAM)		
Digital input	Quantity	1
	Design	Terminal block, 2-pin
	Properties	Rated voltage 24 VDC Safety Extra Low Voltage (SELV)
		For state "1": 10 to 30 VDC For state "0": -30 to 3 VDC Maximum input current 8 mA Cables should be routed in pairs Maximum cable length < 30 m Inputs isolated from electronics.
Digital output	Quantity	1
	Design	Terminal block, 2-pin
	Properties	Rated voltage 24 VDC Safety Extra Low Voltage (SELV)
		Relay, internally not current limited Maximum current carrying capacity 1 A Cables should be routed in pairs Maximum cable length < 30 m Output isolated from electronics
Permitted ambient conditions		
Ambient temperature	During operation	Vertical mounting position
		- Without air flow and with lateral clearance of 5 cm to the neighboring device: -20 °C ... +60 °C - Without clearance at the side and an air flow of 0.5 m/s (only with the "LTE only" mode) -20 °C to +70 °C
		Horizontal mounting position:
		-20 °C ... +50 °C
	During storage	-40 °C to +70 °C
	During transportation	-40 °C to +70 °C
Relative humidity	During operation	≤ 95% at 25 °C, no condensation
Design, dimensions and weight		
Module format		Compact module S7-1500
Degree of protection		IP20
Weight		290 g
Dimensions (W x H x D)		34.8 x 147 x 134.7 mm
Installation options		- Mounting on a DIN rail - Installation on S7-300 mounting rail - Installation on S7-1500 mounting rail - Wall mounting - Mounting on a pedestal

M876-4 (NAM)	
Mounting position	• Vertical (ventilation openings at the top and bottom) • Horizontal (ventilation openings to the right and left) See Permitted ambient conditions
Product functions	
Configuration / management	• Web Based Management (WBM) via HTTP and HTTPS. • Command Line Interface (CLI) via Telnet and SSH
Security	• Router with NAT function – IP masquerading – NAT – SourceNAT – NETMAP • Password protection • Firewall function – Port forwarding – IP firewall with stateful packet inspection (layer 3 and 4) – Global and user-defined firewall rules VPN functions – To establish a VPN (Virtual Private Network), the following functions are available – Up to 20 connections – IPsec VPN, OpenVPN (as client) • SINEMA RC client • Proxy server • Siemens Remote Service (SRS)