EINBAU- UND
BEDIENUNGSANLEITUNG

EB 6610

Originalanleitung

MEMBER OF ASHRAE BACnet INTEREST GROUP EUROPE

CPU-Modul TROVIS 6610

Automationssystem TROVIS 6600

Ausgabe Juni 2010

TROVIS® Elektronik von SAMSON

Hinweise zur vorliegenden Einbau- und Bedienungsanleitung

Diese Einbau- und Bedienungsanleitung (EB) leitet zur sicheren Montage und Bedienung an. Die Hinweise und Anweisungen dieser EB sind verbindlich für den Umgang mit SAMSON-Geräten.

➔ Für die sichere und sachgerechte Anwendung diese EB vor Gebrauch sorgfältig lesen und für späteres Nachschlagen aufbewahren.

➔ Bei Fragen, die über den Inhalt dieser EB hinausgehen, After Sales Service von SAMSON kontaktieren (aftersalesservice@samson.de).

Die gerätebezogenen Einbau- und Bedienungsanleitungen liegen den Geräten bei. Die jeweils aktuellsten Dokumente stehen im Internet unter ***www.samson.de > Service & Support > Downloads > Dokumentation*** zur Verfügung.

Hinweise und ihre Bedeutung

⚠ GEFAHR

Gefährliche Situationen, die zum Tod oder zu schweren Verletzungen führen

⚠ WARNUNG

Situationen, die zum Tod oder zu schweren Verletzungen führen können

HINWEIS

Sachschäden und Fehlfunktionen

Info

Informative Erläuterungen

Tipp

Praktische Empfehlungen

i ***Info***

Das CPU-Modul TROVIS 6610 ist Bestandteil des Automationssystem TROVIS 6600.
Die Projektierung des CPU-Moduls TROVIS 6610 mit den anderen Komponenten des Automationssystems TROVIS 6600 (I/O-Module TROVIS 6620, I-Modul TROVIS 6625, Web-Terminal TROVIS 6615) wird in den ***Projektierungsrichtlinien AB 6600*** *ausführlich beschrieben. Die Projektierungsrichtlinien sind in der Online-Dokumentation der Software „Grafische Projektierung" TROVIS 6690 enthalten und stehen auf Anfrage zur Verfügung.*

1 Allgemeine Sicherheitshinweise

– Das CPU-Modul TROVIS 6610 darf nur von Fachpersonal, das mit Montage, Inbetriebnahme und Betrieb dieses Produktes vertraut ist, montiert und in Betrieb genommen werden. Fachpersonal im Sinne dieser Einbau- und Bedienungsanleitung sind Personen, die aufgrund ihrer fachlichen Ausbildung, ihrer Kenntnisse und Erfahrungen sowie ihrer Kenntnisse der einschlägigen Normen die ihnen übertragenen Aufgaben beurteilen und mögliche Gefahren erkennen können.
– Das CPU-Modul TROVIS 6610 ist für den Einsatz in Starkstromanlagen vorgesehen. Bei Anschluss und Wartung sind die einschlägigen Sicherheitsvorschriften zu beachten.
– Sachgemäßer Transport und fachgerechte Lagerung des Gerätes werden vorausgesetzt.

2 Übersicht zum Automationssystem TROVIS 6600

Das Automationssystem TROVIS 6600 besteht aus autarken Automationsstationen. Diese setzen sich zusammen aus einem CPU-Modul TROVIS 6610, I/O-Modulen TROVIS 6620, I-Modulen TROVIS 6625 und optionalen Web-Terminals TROVIS 6615. Die Visualisierung erfolgt üblicherweise unter dem Betriebssystem Windows®.

Über 20 000 physikalische Datenpunkte lassen sich von einem Gesamtsystem verarbeiten. Die I/O-Module TROVIS 6620 und die I-Module TROVIS 6625 werden dezentral eingesetzt. Sie kommunizieren über RS-485 mit dem CPU-Modul TROVIS 6610. Die CPU-Module TROVIS 6610 kommunizieren sowohl untereinander als auch mit der Leitstation über Ethernet (BACnet/IP, BACnet/PTP, TCP/IP oder Modbus).

Die hohe Flexibilität der Module führt zu kostengünstigen Lösungen. DDC-Konzepte mit hohem Dezentralisierungsgrad sind bequem realisierbar.

2.1 Systemübersicht

Baugruppen des Systems	
Leitstation	TROVIS-LS
Bedienstationen	TROVIS-BS
CPU-Modul	TROVIS 6610 (unterschiedliche Varianten)
I/O-Modul	TROVIS 6620 (unterschiedliche Varianten)
I-Modul	TROVIS 6625
Web-Terminal	TROVIS 6615
Zugehörige Software	
Betriebssystem	üblicherweise Windows®
Prozessvisualisierung	z. B. InTouch von Wonderware
Grafische Projektierung	TROVIS 6690
DA-Server	TROVIS 6691
OPC-Server	TROVIS 6692
Zubehör	
Busabschluss	1400-9561 (2x im Lieferumfang enthalten)
Busverteiler 1-fach	1400-6169
Busverteiler 4-fach	1400-7140

Modbus Masterkabel	1400-9748
Modbus Slavekabel	1400-9749
Serielles Anschlusskabel	1400-9750
Kabelkonverter Zweileiter-Anschaltung	1400-8800
Kabelkonverter Vierleiter-Anschaltung	1400-7308
Anschlussklemmen TROVIS 6610	1991-0133
Anschlussklemmen TROVIS 6620	1991-0134

2.2 Mengengerüst

Module
32 CPU-Module TROVIS 6610 pro Anlage
32 I/O-Module TROVIS 6620/I-Module TROVIS 6625 pro CPU-Modul TROVIS 6610
CPU-Modul TROVIS 6610
40 physikalische Datenpunkte davon 20 Universaleingänge, für jeden Eingang individuell einzustellen als – Analogeingang: Pt 1000/–40 bis 160 °C/0 bis 2000 Ω; ab Variante TROVIS 6610-0001 auch 0 bis 10 V – Binäreingang davon Kanal 1 und 2 als Zähleingang bis 1 kHz (1:1) 12 binäre Ausgänge · 2 A, 250 V AC (ind.) 8 analoge Ausgänge · 0 bis 10 V
I/O-Modul TROVIS 6620
20 physikalische Datenpunkte davon 10 Universaleingänge, für jeden Eingang individuell einzustellen als – Analogeingang: Pt 1000/–40 bis 160 °C/0 bis 2000 Ω; ab Variante TROVIS 6620-0001 auch 0 bis 10 V – Binäreingang davon Kanal 1 und 2 als Zähleingang bis 1 kHz (1:1) 6 binäre Ausgänge · 2 A, 250 V AC (ind.) 4 analoge Ausgänge · 0 bis 10 V
I-Modul TROVIS 6625
20 Binäreingänge

2.3 Netzausdehnung (ohne Repeater, Hubs usw.)

Ethernet	100BASE-T typ. LAN
I/O-Bus	1200 m

2.4 Kabelempfehlung

24 V AC	1,5 mm² Litze
Ethernet	mind. Cat-5-Kabel, geschirmt (STP)
I/O-Bus	Jy(St) Y 2 x 2 x 0,8

2.5 Spannungsversorgung

24 V AC, max. 210 VA für

- 1 CPU-Modul TROVIS 6610 und
- insgesamt 32 I/O-Module TROVIS 6620 und/oder I-Module TROVIS 6625

3 Hinweise zum CPU-Modul TROVIS 6610

Das CPU-Modul TROVIS 6610 lässt sich nur verwenden, wenn es mit der Software „Grafische Projektierung“ TROVIS 6690 für seine Aufgaben in der Gebäudeautomation projektiert wurde.

Eine weitere, jedoch eingeschränkte Funktionalität ist über ein Web-Interface möglich. Die zum Aufruf des Web-Servers notwendige Standard-IP-Adresse steht auf dem Typenschild des Moduls.

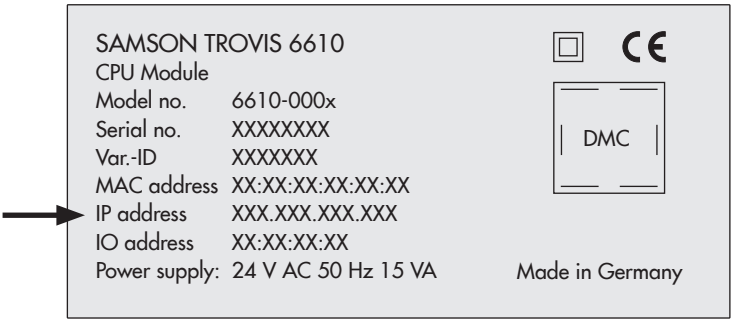

Bild 1: *Typenschild TROVIS 6610 mit IP-Adresse*

3.1 Netzwerkeinstellungen

Das CPU-Modul TROVIS 6610 wird ohne Anlagenbetriebsprogramm ausgeliefert. Die MAC-Adresse sowie die IP-Adresse sind dem Typenschild an der linken Seite zu entnehmen.

Die Subnetmask lautet 255.255.0.0, es ist kein Gateway eingetragen. Um die Netzwerkeinstellungen mit einem PC zu ändern, muss dieser im gleichen Subnet wie das betreffende CPU-Modul TROVIS 6610 stehen. Beispiel:

	CPU-Modul TROVIS 6610	PC oder Notebook
IP-Adresse:	172.30.245.10	172.30..XXX.XXX
Subnetmask:	255.255.0.0	255.255.0.0
Gateway:	0.0.0.0	0.0.0.0

4 Technische Daten

Hilfsenergie	
Stromversorgung	24 V AC (20,4 bis 27,6 V AC)
Frequenzbereich	48 bis 62 Hz
Leistungsaufnahme	15 VA
Anschluss	2 Pin-Steck- und Schraubklemme (grün) Leitungsquerschnitt bis 2,5 mm²
Temperaturbereich	
Betrieb	0 bis 55 °C
Lagerung und Transport	–20 bis 70 °C
Relative Luftfeuchte	normal, keine Betauung
Elektromagnetische Verträglichkeit	
Störaussendung	entsprechend EN 61000-6-3
Störfestigkeit	entsprechend EN 61000-6-2
Gerätesicherheit	
Schutzklasse	II entsprechend EN 61140: 2003
Überspannungskategorie	II entsprechend EN 60664-1
Verschmutzungsgrad	2 entsprechend EN 60664-1
Schutzart	IP 20 entsprechend EN 60529
Einbau	
Abmessungen mit Klemmen (mm)	B x H x T: 185 x 130 x 60
Gewicht	ca. 0,7 kg
Einbau	Montage auf Tragschiene (alle DIN- und EN-Formate)
E/A-Anschlüsse	Steck- und Schraubklemmen Leitungsquerschnitt bis 2,5 mm²

20 Universaleingänge inkl. 2 Zähleingänge (Kanal 1 und 2)	
Info *Es besteht keine galvanische Trennung der Eingänge untereinander sowie zu den analogen Ausgängen!*	
Bei Verwendung als binäre Eingänge:	
Speisung der Binäreingänge	intern gespeist, ca. 10 V DC
Messstrom bei Kurzschluss	500 µA
Eingangsbürde	max. 100
Mindestimpulslänge (1:1) (Kanal 1 und 2)	> 0,5 ms (< 1 kHz) > 500 ms (nur Variante TROVIS 6610-0001)
Zählimpuls	bei pos. Flanke
Mindestimpulslänge (Kanal 3 bis 20)	1 s
LED am Modul bei Zähleingängen	EIN, bei Kontakt geschlossen oder < 0,4 V AUS, bei Kontakt offen oder > 4 V
LED am Modul bei binären Eingängen	EIN, bei Kontakt geschlossen oder < 0,05 V AUS, bei Kontakt offen oder > 1 V
Bei Verwendung als analoge Eingänge:	
Sensor	
Sensorart	Pt 1000 im 2-Leiter-Anschluss
Eingangsbereich	–40 bis +160 °C
Auflösung	10 bit
Genauigkeit	< 0,5 % vom Messbereich
Temperatureinfluss	< 0,1 % vom Messbereich pro 10 K
Messstrom	500 µA
Widerstand	
Eingangsbereich	0 bis 2000 Ω, 2-Leiter-Anschluss
Auflösung	10 bit
Genauigkeit	< 0,1 % vom Messbereich
Temperatureinfluss	< 0,05 % vom Messbereich pro 10 K
Messstrom	500 µA

Spannung (ab Variante TROVIS 6610-0001)	
Eingangsbereich	0 bis 10 V DC
Auflösung	10 bit
Genauigkeit	< 0,5 % vom Messbereich
Temperatureinfluss	< 0,04 % vom Messbereich pro 10 K
Eingangswiderstand	10 kΩ
12 Binärausgänge	
Belastbarkeit der Relais	250 V AC, 2 A induktive Last 250 V AC, 3 A ohmsche Last
8 Analogausgänge	
Ausgangsbereich	0 bis 10 V DC
Auflösung	10 bit
Genauigkeit	< 0,5 % vom Messbereich
Temperatureinfluss	< 0,03 % vom Messbereich pro 10 K
Zulässige Bürde	> 3,3 k
Kurzschlussstrom	5,5 mA
Anzeigen	
LED-Statusanzeigen	Binäreingang und -ausgang, CPU-Betrieb und -Störung, je Schnittstelle Kommunikation (Rx/Tx)

Schnittstellen	
Leitebene/CPU-Module TROVIS 6610	
Spezifikation	nach IEEE 802.3
Übertragungsrate	10/100 MBit/s
Protokoll	TCP/IP
Anschluss	RJ-45, 8-polig
I/O-Bus	
Spezifikation	RS-485 2-Draht, polaritätsunabhängig
Galvanische Entkopplung	ja
Übertragungsrate (kBit/s)	9.6, 19.2, 38.4, 57.6, 115.2
Protokoll	SAMSON
Anschluss	3 Pin-Steck- und Schraubklemme (grün) Leitungsquerschnitt bis 2,5 mm^2
RS-232	
Spezifikation	RS-232 mit Steuerleitungen RTS/CTS
Galvanische Entkopplung	nein
Übertragungsrate (kBit/s)	9.6, 19.2, 38.4, 57.6, 115.2
Anschluss	RJ 45, 8-polig
Modbus	
Spezifikation	RS-485, 4-Draht; 2-Draht über externe Brücke
Galvanische Entkopplung	ja
Übertragungsrate (kBit/s)	9.6, 19.2, 38.4, 57.6, 115.2
Protokoll	Modbus-RTU, Master oder Slave
Anschluss	RJ-45, 8-polig
USB	
Spezifikation	2 x USB 2.0 Full speed 12 Mbit/s, Speicherstift, Modem (USB Mass Storage, USB CDC/ACM)

5 Montage

➔ Vor dem Einbau des CPU-Moduls TROVIS 6610 die IP-Adresse des Moduls notieren (Typenschild, vgl. Bild 1, Seite 8), da diese für die spätere Projektierung benötigt wird.

Konfiguration

i ***Info***

– *In der **Variante TROVIS 6610-0001** wird über die DIP-Schalter festgelegt, wie ein Universaleingang verwendet werden soll. Durch diese Konfiguration wird zwischen Binär-, Sensor- oder Widerstandseingang einerseits und Spannungseingang andererseits unterschieden.*
– *Bei **älteren Varianten** kann der Universaleingang nicht als Spannungseingang festgelegt werden, eine Konfiguration ist daher nicht notwendig.*
– *Bei **neueren Varianten** erfolgt die Konfiguration über die Grafische Projektierung TROVIS 6690.*

Die Modul-Konfiguration erfolgt an den DIP-Schaltern auf der Rückseite der Module. Deshalb muss die Konfiguration vor der Modul-Montage erfolgen.

Die Konfiguration wird für jeden Universaleingang einzeln vorgenommen. Jeweils von links nach rechts (Beschriftung 1 … 10) werden am ersten Schalterblock die Universaleingänge 1 bis 10 und am zweiten Schalterblock die Universaleingänge 11 bis 20 konfiguriert.

Für die Schalterstellung gilt:

– ON: Festlegung eines Universaleingangs als Binär-, Sensor- oder Widerstandseingang
– OFF: Festlegung eines Universaleingangs als Spannungseingang

Bild 2: *DIP-Schalter auf der Rückseite des CPU-Moduls TROVIS 6610*

Montage

Für die Montage der Module gilt:

➔ Alle Module sind zur Montage auf Tragschiene TS 35 vorgesehen.

➔ Zwischen Modul-Klemmen und Kabelkanal einen Mindestabstand von 30 mm einhalten (vgl. Bild 3)!

➔ Die Montage der Module erfolgt in der Regel in einem separaten MSR-Schaltschrank.

➔ Module zuerst oben auf der Tragschiene einhaken und dann unten andrücken.

Eine Installation direkt im Leistungsteil ist ebenfalls möglich, sofern durch ein Trennblech eine hinreichende Abschirmung sichergestellt ist.

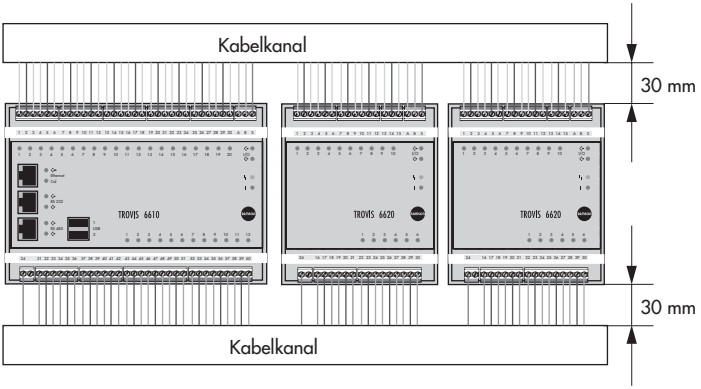

Bild 3: *Mindestabstand zwischen Modulen und Kabelkanal (dargestellt 1 x CPU-Modul TROVIS 6610 und 2 x I/O-Module TROVIS 6620)*

Demontage

➔ Die Verriegelungslaschen an der Modulunterseite mit einem geeignetem Schraubendreher aushebeln.

➔ Das Modul löst sich von der Tragschiene und kann abgenommen werden.

5.1 Einbaumaße

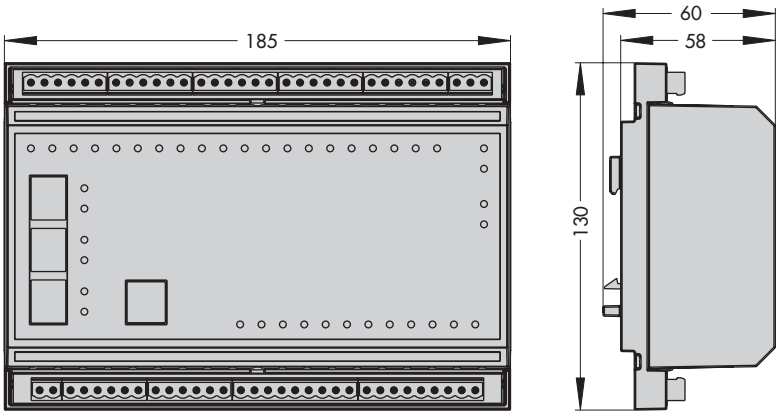

Bild 4: *Einbaumaße des CPU-Moduls TROVIS 6610*

6 Elektrischer Anschluss

6.1 Versorgungsleitung

Das Automationssystem TROVIS 6600 wird mit 24 V AC versorgt.

Je nach Leistungsaufnahme aller angeschlossenen Module ist die Spannungsversorgung entsprechend zu dimensionieren (vgl. Kap. 6.2).

Die Verdrahtung der Spannungsversorgung ist mit Doppeladerendhülsen vorzunehmen, damit beim Trennen eines Teilnehmers die nachfolgenden Module weiterhin versorgt werden (vgl. Bild 5).

! *HINWEIS*

Beschädigung der Module durch unzulässige Klemmenverbindung!
GND-Klemmen zwischen den Modulen nicht verbinden!

Tipp

SAMSON empfiehlt zur Vermeidung von Überspannungen den Einsatz von Überspannungsableitern.

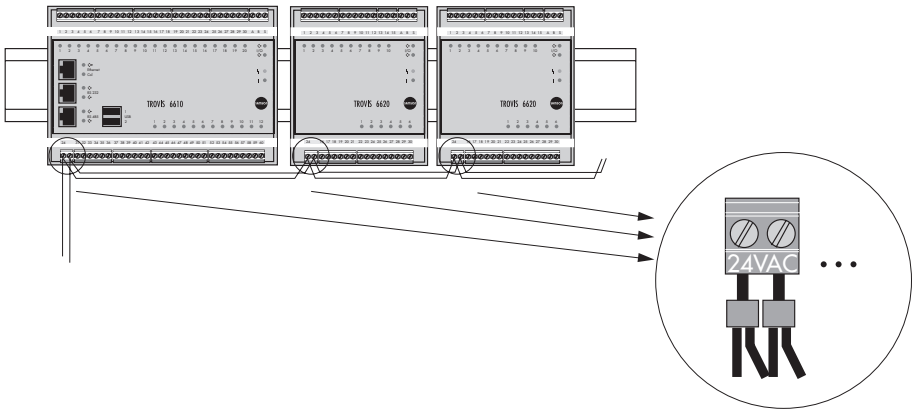

Bild 5: *Verdrahten der Versorgungsleitung für 24 V AC (dargestellt 1 x CPU-Modul TROVIS 6610 und 2 x I/O-Module TROVIS 6620)*

6.2 Dimensionierung der Spannungsversorgung

Je CPU-Modul TROVIS 6610 können bis zu 32 I/O-Module TROVIS 6620 und/oder I-Module TROVIS 6625 angeschlossen werden. Die Spannungsversorgung aller Module erfolgt mit 24 V AC.

Leistungsaufnahme der einzelnen Module

Modul	Spannung	Leistungsaufnahme
CPU-Modul TROVIS 6610	24 V AC	15 VA
I/O-Modul TROVIS 6620	24 V AC	6 VA
I-Modul TROVIS 6625	24 V DC	8 VA

Gesamtleistungsaufnahme aller angeschlossenen Module

Typ	Anzahl	Leistungsaufnahme	Gesamtleistung
CPU-Modul TROVIS 6610	...	15 VA	... VA
I/O-Modul TROVIS 6620	...	6 VA	... VA
I-Modul TROVIS 6625	...	8 VA	... VA
		Summe	... VA
		10 % Reserve	... VA
		Gesamt	... VA

Spannungsabfall an der Versorgungsleitung

Je größer die abgenommene Leistung aus der Spannungsversorgung ist, desto größer ist der Spannungs- oder Leistungsabfall auf der Leitung. Der Spannungsabfall wird wie folgt berechnet:

$$U_{RL} = \frac{2 \cdot L \cdot P}{\kappa \cdot A \cdot U_S}$$

U_{RL}: Spannungsabfall an Hin- und Rückleitung [V]
L: Einfachlänge der Versorgungsleitung [m]
P: Entnommene Leistung aus der Spannungsversorgung [VA]
κ: Materialkonstante (kappa); für Kupfer 57 [m/Ω · mm²]
A: Leitungsquerschnitt [mm²]
U_S: Versorgungsspannung des Systems; hier 24 V

Empfohlene Leitungslängen bei hohen Leistungen

Um die Versorgungsspannung des Systems zu gewährleisten, ist die untere Toleranzgrenze des Transformators sowie die untere Toleranzgrenze des Systems zu berücksichtigen.

$$L_{max} = \frac{U_{RL} \cdot \kappa \cdot A \cdot U_{Trafo}}{2 \cdot P}$$

L_{max}: maximal zugelassene Leitungslänge (einfach)
U_{RL}: zugelassener Spannungsabfall (hier 3,6 V)
κ: Materialkonstante (kappa); für Kupfer 57 [m/Ω · mm²]
A: Leitungsquerschnitt [mm²]
U_{Trafo}: Sekundärspannung des Trafos (24 V AC)
P: Leistungsbedarf des Systems (Verbrauchers)

6.3 Klemmenbelegung

Der Anschluss erfolgt über Steck- und Schraubklemmen mit einem Leitungsquerschnitt von 2,5 mm²

Klemme	Kanal	Anschlüsse des CPU-Moduls TROVIS 6610
1	1	UE/ZE1
2		GND
3	2	UE/ZE2
4	3	UE
5		GND
6	4	UE
7	5	UE
8		GND
9	6	UE
10	7	UE
11		GND
12	8	UE
13	9	UE
14		GND
15	10	UE

Klemme	Kanal	Anschlüsse des CPU-Moduls TROVIS 6610
16	11	UE
17		GND
18	12	UE
19	13	UE
20		GND
21	14	UE
22	15	UE
23		GND
24	16	UE
25	17	UE
26		GND
27	18	UE
28	19	UE
29		GND
30	20	UE
A		RX/TX A
B		RX/TX B
S		Schirm
24 V AC	24 V AC 15 VA	Hilfsenergie
31	21	AA
32		GND
33	22	AA
34	23	AA
35		GND
36	24	AA
37	25	AA
38		GND
39	26	AA

Klemme	Kanal	Anschlüsse des CPU-Moduls TROVIS 6610
40	27	AA
41		GND
42	28	AA
43	29	BA
44		Speisung Kanal 29 und 30
45	30	BA
46	31	BA
47		Speisung Kanal 31 und 32
48	32	BA
49	33	BA
50		Speisung Kanal 33 und 34
51	34	BA
52	35	BA
53		Speisung Kanal 35 und 36
54	36	BA
55	37	BA
56		Speisung Kanal 37 und 38
57	38	BA
58	39	BA
59		Speisung Kanal 39 und 40
60	40	BA

7 Entsorgen

SAMSON ist in Deutschland registrierter Hersteller bei der stiftung elektro-altgeräte register (stiftung ear), WEEE-Reg.-Nr.: DE 62194439

➔ Bei der Entsorgung lokale, nationale und internationale Vorschriften beachten.

➔ Alte Bauteile, Schmiermittel und Gefahrenstoffe nicht dem Hausmüll zuführen.

Tipp

SAMSON kann auf Kundenwunsch einen Dienstleister mit Zerlegung und Recycling beauftragen.

8 Lizenzen

Die im CPU-Modul TROVIS 6610 verwendete Software-Technologien und Programme sind zum Teil an die im Folgenden aufgeführten Lizenzen gebunden. Der Quellcode der an diese Lizenzen gebundenen Teile der Firmware des CPU-Moduls TROVIS 6610 kann auf Anfrage von SAMSON bezogen werden oder ist unter ▶ www.samson.de/de/gpl-source-code/ im Internet zu finden.

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Version 2.1, February 1999

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TROVIS
6610

with
Firmware revision: SAMSON BACstack 1.6
BACnet protocol revision: 4
Device profile: B-BC

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Dortmund, April 6th, 2008
The Executive Board of the BIG-EU

Volker Röhl *William O. Swan* *Roger Braun* *Gijs de Koning*

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WSPCert

Certificate

No. BAC-0105-03

WSPCert attests the conformance of the following BACnet implementation to the BACnet standard ISO 16484-5:2012. The attested conformance refers to the BACnet Interoperability Building Blocks (BIBBs) listed in the annex of this certificate.

The BACnet Building Controller (B-BC)

TROVIS 6610 Automation Station 6610-0002

with the software version:

SAMSON BACstack 2.0

of

SAMSON AG

Postfach 10 19 01, 60019 Frankfurt a.M., Germany

has fulfilled the requirements according to the test standard ISO 16484-6, the BTL Test Plan 12.0 and the Certification Rules of the BACnet Interest Group Europe, see **MBS Test Report No. VG 2012_7573.**

The certificate is valid until 2017/04/01

Date of renewal 2016/03/31

Empowered by ASHRAE BACnet INTEREST GROUP EUROPE

2013/11/04

Date of initial certification

Dipl.-Ing. G. Weinmann
Head of Certification Body

WSPCert Dr.-Ing. Frank Bitter
Kapuzinerweg 7, 70374 Stuttgart, Germany,
phone: +49 (0)711 9539220, email: info@wspcert.de

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WSP Cert

Annex to Certificate No. BAC-0105-03

The certification of the BACnet Implementation
TROVIS 6610-0002 Automation Station
of **SAMSON AG**

refers to the BACnet Interoperability Building Blocks (BIBBs) listed below. BIBBs other than listed are not part of the certification.

BACnet Interoperability Building Blocks	
DS-RP-A	Data Sharing – Read Property – A
DS-RP-B	Data Sharing – Read Property – B
DS-RPM-A	Data Sharing – Read Property Multiple – A
DS-RPM-B	Data Sharing – Read Property Multiple – B
DS-WP-A	Data Sharing – Write Property – A
DS-WP-B	Data Sharing – Write Property – B
DS-WPM-B	Data Sharing – Write Property Multiple – B
DS-COV-A	Data Sharing – COV – A
DS-COV-B	Data Sharing – COV – B
AE-N-I-B	Alarm and Event – Notification Internal – B
AE-N-E-B	Alarm and Event – Notification External – B
AE-ACK-B	Alarm and Event – Acknowledge Alarm – B
AE-ASUM-B	Alarm and Event – Alarm Summary – B
AE-ESUM-B	Alarm and Event Management – Event-Enrollment Summary – B
AE-INFO-B	Alarm and Event – Information – B
SCHED-I-B	Scheduling – Internal – B
SCHED-E-B	Scheduling – External – B
T-VMT-I-B	Trending – Viewing and Modifying Trends Internal – B
T-VMT-E-B	Trending – Viewing and Modifying Trends External – B
T-ATR-B	Trending – Automated Trend Retrieval – B
DM-DDB-A	Device Management – Dynamic Device Binding – A
DM-DDB-B	Device Management – Dynamic Device Binding – B
DM-DOB-B	Device Management – Dynamic Object Binding – B
DM-DCC-B	Device Management – Device Communication Control – B
DM-ATS-A	Device Management – Automatic Time Synchronization – A
DM-TS-A	Device Management – Time Synchronization – A
DM-TS-B	Device Management – Time Synchronization – B
DM-UTC-A	Device Management – UTC Time Synchronization – A
DM-UTC-B	Device Management – UTC Time Synchronization – B
DM-RD-B	Device Management – Reinitialize Device – B
DM-BR-B	Device Management – Backup and Restore – B
DM-R-B	Device Management – Restart– B
DM-LM-B	Device Management – List Manipulation– B
DM-OCD-B	Device Management – Object Creation and Deletion – B

AMEV
Arbeitskreis Maschinen- und Elektrotechnik
staatlicher und kommunaler Verwaltungen

WSP Cert
BACnet ZERTIFIZIERUNGSSTELLE

AMEV-Testat für zertifizierte BACnet-Geräte

1. Folgendes BACnet-Gerät ist zertifiziert nach DIN EN ISO 16484-5:

Anbieter	**SAMSON AG**	
Produkt Name	**TROVIS 6610 Automationsstation**	
Produkt Modell Nr.	**6610-0002**	
Standard-Geräteprofil	**B-BC**	**BACnet Protokoll Vers. / Rev. 1.12**
Firmware Revision	**SAMSON BACstack 2.0**	

Übertragungsmedium	☒	**BACnet IP (Annex J)**	☐	**BACnet over LonTalk**
	☐	**BACnet MS/TP master**	☐	**BACnet MS/TP slave**
	☐	**MS/TP baud rates:**		
	☐			
Stat. Adresseinbindung	☐	**Ja (nur bei MS/TP)**		
Netzwerkoptionen	☒	**BBMD**	☒	**Anmeldg. durch ext. Geräte**
	☐	**Router, Medium**		
Zeichensätze	☒	**UTF-8**	☒	**ANSI X3.4**
Meldeoptionen	☒	**Intrinsic Reporting**	☒	**Algorithmic Reporting**

2. Das Gerät unterstützt die BACnet-Funktionen gemäß AMEV-Profil:

☐	**AMEV-Profil AS-A** (Automationsstation mit Basisausstattung)	**Stand:** .....
☒	**AMEV-Profil AS-B** (Automationsstation mit erweiterter Ausstattung)	**Stand**: V 1.1 21.08.2012
☐	**AMEV-Profil**	**Stand:** .....

3. Grundlagen für das AMEV-Testat:

☒	**Testbericht** des Testlabors MBS vom 07.11.2013 Nr. VG 2012_7573
☒	**AMEV-Empfehlung BACnet** 2011 V 1.1. **Stand:** 21.08.2012 (siehe www.amev-online.de)

4. Das AMEV-Testat gilt nur in Verbindung mit folgendem Zertifikat:

☒	**Zertifikat Nr.** BAC-0105 (siehe http://www.big-eu.org/conformance/eu/index.php)

(Ort, Datum)
Düsseldorf, 28.11.2013

.....
(AMEV Obmann BACnet)

WSP Cert
Dr.-Ing. Frank Bitter
Kapuzinerweg 7
D-70374 Stuttgart
Telefon +49 711 953922-0
Telefax +49 711 953922-66

.....
(BACnet-Zertifizierungsstelle)

10 EU Konformitätserklärung

SMART IN FLOW CONTROL.

SAMSON

EU Konformitätserklärung / EU Declaration of Conformity / Déclaration UE de conformité

Die alleinige Verantwortung für die Ausstellung dieser Konformitätserklärung trägt der Hersteller/
This declaration of conformity is issued under the sole responsibility of the manufacturer/
La présente déclaration de conformité est établie sous la seule responsabilité du fabricant.

Für das folgende Produkt / For the following product / Nous certifions que le produit

CPU-Modul / CPU-Module / Module CPU
Typ / Type / Type TROVIS 6610

wird die Konformität mit den einschlägigen Harmonisierungsrechtsvorschriften der Union bestätigt /
the conformity with the relevant Union harmonisation legislation is declared with/
est conforme à la législation d'harmonisation de l'Union applicable selon les normes:

EMC 2014/30/EU	EN 61000-6-2:2005, EN 61000-6-3:2010 +A1:2011, EN 61326:2013
LVD 2014/35/EU	EN 60730-1:2016, EN 61010-1:2010
RoHS 2011/65/EU	EN 50581:2012

Hersteller / Manufacturer / Fabricant:

SAMSON AKTIENGESELLSCHAFT
Weismüllerstraße 3
D-60314 Frankfurt am Main
Deutschland/Germany/Allemagne

Frankfurt / Francfort, 2017-07-29
Im Namen des Herstellers/ On behalf of the Manufacturer/ Au nom du fabricant.

i.V. Gert Nahler

Gert Nahler
Zentralabteilungsleiter/Head of Department/Chef du département
Entwicklung Automation und Integrationstechnologien/
Development Automation and Integration Technologies

i.V. H. Zager

Hanno Zager
Leiter Qualitätssicherung/Head of Quality Managment/
Responsable de l'assurance de la qualité

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Revison 07

EB 6610

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