

CONPROSYS[®]

Reference Manual

(Hardware)

Measurement Module



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CONTEC CO., LTD.

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Introduction

This section provides necessary information of the product such as the outline, bundled items and manuals before actual use.

1.Related Manuals

The manuals related to the product are listed below. Read them as necessary along with this document.

Must Read the Followings.

Name	Purpose	Contents	How to get
Product Guide	Must read this after opening the package.	This lists the product configuration and describes the precautions.	Included in the package (Printed matter)
Setup Manual	Read this when setting up the product.	This describes the required items for setup and configuration procedure.	Download from the Contec website (PDF)
Reference Manual (Hardware)	Read this when operating the product.	This describes the hardware aspects such as functions and settings.	Download from the Contec website (PDF)
Reference Manual (Software)	Read this when setting up the "CONPROSYS WEB Setting"	This describes how to set each function of "CONPROSYS WEB Setting".	Download from the Contec website (PDF)

Download Manuals

Download the manuals accordingly from the following URL.

Download

https://www.contec.com/download/

2.Check the Firmware Version

Before start using the product, visit our website to check the firmware version and update to the latest one if necessary.

Updating firmware to the latest version will resolve troubles and stabilize the operation.

Download

https://www.contec.com/download/

*Refer to the "Reference Manual (Software)" for the details of the firmware updating.

3.About the Product

This product is a module to monitor leakage current of the equipment in a live state that is driven by three-phase alternating current power. Set this module to operate along with the CONPROSYS series configurable type CPU module controller.

It has a function useful for early deterioration discovery in the three-phase motor or invertors, which are widely used in the FA factories or water treatment facilities, for instance in a pump, and the system can be examined while power is active.

4.Features

1. Hardware features



Find isolation deterioration in motor

This product finds isolation deterioration of the three-phase induction motor by calculating isolation resistance from the measured applied voltage as well as ground fault current to the three-phase induction motor (three-phase motor). With the Modes-IOTM measurement method, isolation resistance in a live state can be accurately measured, and it is applicable to detect isolation deterioration of the three-phase induction motor.

The product can be set either in front of or behind the inverter.

🚯 Modes-IO 🏻

* The measurement method of TANASHIN DENKI CO., LTD. is applied for this product.



As the product requires no base board for installation, it helps add modules easily and smoothly. Installed modules can be removed from any set positions on DIN rail.

Compact design

Compact design, 25.2(W)×94.7(D)×124.8 (H), features flexibility in installation.

Adaptable to a temperature range between -20 and +60°C

The product is capable of operating in the temperature between -20 and + 60°C. It can be installed in the various environments.



Equipped with LED for an operation check

The product has LED for an operation check, which helps you visually confirm the communication status of each interface.

5.Product Configuration List

The product consists of the items listed below.

Check, with the following list, that your package is complete.

If you discover damaged or missing items, contact your retailer.



4-pin Connector...1

ZCT Unit...1

*This product is verified in conformity with our recommended power supply. In case you use other power supplies, thus, it may not be able to fulfil certification requirements. Please see the Contec website regarding power supply recommendation (https://www.contec.com/).

Safety Precautions

Understand the following definitions and precautions to use the product safely. Never fail to read them before using the product.

1. Safety Information

This document provides safety information using the following symbols to prevent accidents resulting in injury or death and the destruction of equipment and resources.

Understand the meanings of these labels to operate the equipment safely.

DANGER DANGER indicates an imminently hazardous situation which, if avoided, will result in death or serious injury.				
	WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.			
	CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury or in property damage.			

2.Handling Precautions

△ DANGER

- Do not use the product in locations exposed to a flammable or corrosive gas. It may cause explosion, fire, electrical shock, or malfunction.
- Do not allow the device to come into contact with foreign substances (metal particles, flammable substances, liquids, etc.) Otherwise, it can cause fire or electrical shock.
- Do not place the product in an unstable location or use incomplete mountings. Otherwise, it may cause the device to fall.
- Be sure to connect the product to the stipulated power supply voltage. Connecting to a different voltage might cause a fire or electrical shock.
- If the product is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.
- The product is not intended for use in aerospace, space, nuclear power, medical equipment, or other applications that require a very high level of reliability. Do not use the product in such applications.
- If using the product in applications where safety is critical such as in railways, automotive, or disaster prevention or security systems, please contact your retailer.
- Do not touch the product or ZCT unit with your hands when the product is in operation. It can cause electric shock.
- Double check that voltage in the distribution system is inactive before connecting a cable through the ZCT unit or to the voltage measurement connector. Touching electrodes can cause electrical shock.
- Use a covered cable that is isolated by greater voltage than used voltage to connect through the ZCT unit or to connect with the voltage measurement connector. Insufficient isolation can cause electrical shock.

CAUTION

- Be certain the following requirements are satisfied when using the product.
 - Indoor use
 - Altitude up to 2000m
 - Applicable POLLUTION DEGREE 2
 - The place to be measured should not exceed 300VAC (CAT III), or 600VAC (CAT II).

When using the product at high altitudes, refer to the relational expression below to find an appropriate ambient temperature. The heat dissipation decreases due to air pressure drop and could lead to damages or a shorter product life.

- Ambient temperature = 60[°C] 0.005 x altitude [m]
- An Example)

The product is used at 2000 meters

- 60°C (0.005 x 2000m) = 50°C (Ambient temperature)
- Do not use or store the product in a location exposed to extremely high or low temperature that exceeds range of specification or susceptible to rapid temperature changes.
 - e.g. Exposure to direct sun
 - In the vicinity of a heat source
- Do not use the product in extremely humid or dusty locations. It is extremely dangerous to use the product with its interior penetrated by water or any other fluid or conductive dust. If the product must be used in such an environment, install it on a dust-proof control panel, for example.
- Avoid using or storing the product in locations subject to shock or vibration that exceeds range of specification.
- When transporting the product, take suitable measures to avoid applying shock or vibration directly to the product.

Impact resistance: 15G (11ms) below.

- Use the product in the specified operating condition (temperature, humidity, vibration and shock).
- Avoid installing in the place where ventilation of the product may compromise. Insufficient aeration could heat up the product and lead to malfunctions or damages.
- Do not use the product in the vicinity of devices that generate strong magnetic force or noise. Such products will cause the product to malfunction (stop, reboot).
- Do not use or store the product in the presence of chemicals.
- When removing connectors or cables, always unplug the power cables and confirm the LEDs are turned off.
- Do not modify the product. CONTEC will bear no responsibility for any problems, etc., resulting from modifying the product.
- In the event of failure or abnormality (foul smells or excessive heat generation), unplug the power cables immediately and contact your retailer.
- To connect with peripherals, use a grounded, shielded cable.

- To clean the product, wipe it gently with a soft cloth dampened with either water or mild detergent. Do not use chemicals or a volatile solvent, such as benzene or thinner, to prevent the paint to be scraped or discolored.
- When connecting cables, first check the shapes of connectors, and then insert them in the correct orientation. After they are connected, do not put too much load on the connected part. Doing so may result in poor contact or damage to the product and the connected part.
- Do not touch metal parts or terminals with your hands when the product is in operation. Otherwise, the product may malfunction, or cause failure.
- Do not touch the product or connectors with a wet hand to avoid electric shock.
- The specifications of the product are subject to change without notice for enhancement and quality improvement. Even when using the product continuously, be sure to read the manual in the CONTEC's website and understand the contents.
- When the product is used in a place that is affected by overcurrent or overvoltage (lightning surge), select appropriate surge protection device for all of the route (Signal line, etc.).
 Consult with the specialist regarding selecting, purchasing, and setting the surge protection device.
- When disposing of the product, follow the disposal procedures stipulated under the relevant laws and municipal ordinances.
- Always attach the end cover while power is active.
- The product is an open-type device (a device designed to be housed inside other equipment) and must always be mounted inside a mechanical enclosure having enough strength.
- To avoid induced noise, wiring to the product should be separated from the power line with high voltage or large current. Also, avoid parallel wiring or use the same wiring with the power line.
- Accurate measured value may not be obtained if the cycle of the motor rotation is matched to the commercial frequency or close to the higher harmonic having three times of commercial frequency.
- The product cannot measure with open-delta connection for three-phase single-phase system or ungrounded circuit type
- For penetrating circuit, use penetrable circuit voltage, choose an isolated cable with proper material and diameter for the rated current, or do not use a non-isolated cable or a conductor (bus bar).
- The ZCT unit should be set 10 cm farther away from large current of 1000A or larger to avoid the influence of external magnetic.
- Secure the ZCT UNIT firmly to prevent the weight of the penetrating circuit or external force from applying.
- If the ZCT unit is set in the vicinity of devices that generate strong magnetic force such as a fan motor, a transformer, or an electromagnetic switch, it may affect the measurement accuracy.
- When removing the cables of the ZCT unit from the module, do not pull them as it results in the breaking of cables.
- The ZCT unit cables should not be bent repeatedly and should minimize material stress.

- Do not connect or disconnect the ZCT unit cables while power is being supplied through the power cable.
- Do not disassemble the ZCT unit, otherwise troubles may be caused.
- Regardless of the foregoing statements, CONTEC is not liable for any damages whatsoever (Including damages for loss of business profits) arising out of the use or inability to use this CONTEC product or the information contained herein.

1. Display marking

Display of power (Input Rating Label)



Product Nomenclature and Function

This section describes product component names and their functions, pin assignment of each connector.

1.Nomenclature of Product Components

Component names of the product are shown in the figure below.



No.	Name Function		
1	Stack Bus	Used for power supply and communication with the configurable type module	
2	2 LED Indicator This indicates status of the product.		
3	ZCT Connector	Used to connect the ZCT unit. (use ZCT unit included in the package)	
4	Voltage Measurement Connector	Used to measure voltage. (use the 4-pin connector included in the package)	

2.Description of Product Components

Components such as connectors, switches are described.

1. Stack Bus

It is used for power supply and communication to the configurable type module.

CAUTION

- Never set or remove the product while power is active.
- Always confirm the PWR-LED is turned off before setting or removing the devices.

2. LED Indicator

Status of the product is indicated by ON/OFF and flashing of LED.

The meaning of each LED is described below.

STATUS	
--------	--

Color and Description

LED	Color	Display		Description
STATUS	Green	ON		It indicates the system runs normally.
	Red	ON		It lights up when the error occurs.
	Green	FLASHING		It flashes upon initializing.
	-	OFF		The power is off. *1

*1 The module is inactive during the booting of the controller. Power will be supplied from the controller after the completion.

3. ZCT Connection

Measure the zero-phase current flowing into equipment or three-phase induction motor (three-phase motor).

Connect the ZCT unit included in the package.

Connector type: J.S.T. Mfg. Co.,Ltd S11B-ZESK-2D (or equivalent)



4. Voltage Measurement Connector

Measure the voltage of each phase of three-phase power supply base on to the ground potential. Use the 4-pin connector, included in the package, to connect to external power.

Connector type: PHOENIXCONTACT GMSTB 2,5 HCV/4-ST-7,62 (or equivalent)



Pin Assignment

Pin No.	Signal Name	Description	
1	L3/T3	Connect each phase of equipment or inverter output.	
2	L2/T2	Connect each phase of equipment or inverter output.	
3	L1/T1	Connect each phase of equipment or inverter output.	
4	REF	Connect the ground terminal of equipment or inverter.	

Installation

This section describes how to mount the product on a DIN rail, and to connect to an external device with a cable.

1.Install the Product

1. Installation Conditions

Installation Orientation

Install the product in the orientations shown below (0 °C).

Other orientations may cause problems such as malfunctions due to inadequate heat dissipation.

Orientation for DIN rail Mounting





Ambient Temperature

The ambient temperature is decided from the multiple measurement points which are a 50mmdistance from the product.

During the operation, adjust the air current to make certain that the temperatures measured in the points stay within the specified temperature. (-20 - $+60^{\circ}$ C)



Configurable controller and module(s)

CAUTION

- Note that although the ambient temperature is within the specified range, an operational malfunction may occur if there is other device generating high heat; the radiation will influence the product to increase its temperature.
- Do not install this product into the fully-sealed space except the case in which the internal temperature is adjustable by equipment such as air conditioner. Long-term usage might increase the temperature of the product and lead to malfunctions or other troubles.
- When using the product in a high temperature environment, its life time will be shorten. Perform the forced air cooling to counteract.

2. Setting the Configurable Type Module

CAUTION

- If the modules set side-by side are disconnected during the operation, it can cause damage to the product. Set the controller on DIN rail in order to avoid the trouble.
- Always confirm the PWR-LED is turned off before setting or removing the modules
- Always check the module is firmly fixed on DIN rail with hooks when setting the product.

How to Set

1 First, slide the attached end cover to remove it from the product that is mounted on the DIN Rail.



2 Unlock the hooks of the module. If the hooks are stuck, use a slotted screwdriver to unlock.





3 Engage the side rail of the setting module to the side rail of the controller (or another module) that is already mounted.

When the rails fit, slide the setting module all the way toward the DIN rail.



4 Fix and secure the module on the DIN rail by locking the hooks.



5 Put back and slide the end cover to the module.



How to Remove

1 First, slide the attached end cover from the configurable type module to remove it.



2 Unlock the hooks of the module. If the hooks are stuck, use a slotted screwdriver to unlock.



Unlock the hook with a slotted screwdriver

There are two ways to unlock the hook using a slotted screwdriver. Unlock it by one of the following.

• Using the screwdriver as leverage

Insert a slotted screwdriver (the point should be smaller than 4.5mm) into a hole. (see the figure below)

By using the screwdriver as leverage, move it upward in the direction of the arrow to unlock.



• By rotating the screwdriver

Place the slotted screwdriver (the point should be smaller than 8mm) as shown in the figure. Rotate the screwdriver 90-degree in either direction.



3 With the hooks unlocked, pull the module toward you.



4 Put back the end cover to the controller.



How to set the ZCT unit



Use screws or the likes to secure the ZCT unit.

Recommended screws: M4 captive washer (SW+JIS flatW) binding head screw, Length=14 mm or longer

Recommended tightening torque: 1.2-1.5[N·m]

*Decide the most appropriate tightening torque that suits the actual conditions.

2.Connecting to an External Device

Use the supplied connector plug to connect the product to an external device.

The following example describes how to make the connecting cable with a 4-pin connector.



Applicable wire : AWG24 - 12

- **1** Strip off approximately 8mm (plus or minus 0.5mm) of the covered part of a cable and insert it to the opening.
- **2** After the insertion, secure the stripped part by turning screws with a slotted driver to prevent it from disconnecting.



CAUTION

- Removing the connector plug by grasping the cable can break the wire. Always grasp the connector to remove it.
- Tightening torque of the supplied connector is 0.5N·m.
- Strip off approximately 8mm (plus or minus 0.5mm) of the covered part of a cable to connect with the connector.
- About a caution mark A on the product:

Please use copper wires that tolerate the temperature of 75 °C and higher.

• About a caution mark on the product: Voltage of up to 600VAC is applied. Be careful of electrical shock.

3.Cable Connection

1. Measure all the equipment (power mode)

By measuring the voltage of the power and the zero-phase current in the control panel, the isolation resistance of all the equipment including the connecting inverters can be measured.

Voltage Measurement Cable

Use the voltage measurement cable described below.

Wire	Use copper wires that tolerate the temperature of 75 °C and higher.	
Cable Diameter	AWG24 - 12	
Cable Length	Shorter than 3.0 meters	

*Refer to "**Voltage Measurement Connector**" in the **page 19** for details of the voltage measurement connector and pin assignment.

Connecting example with three-phase Delta (3-wire, threephase corner-grounded system)

When connecting to the power of three-phase Delta cable, isolation resistance of all equipment including inverters can be measured.

Connect phases (L1/T1, L2/T2, L3/T3, and L3), as well as the ground terminal with the voltage input terminal (L1, L2, L3, and REF) respectively. Then, put three cables of L1, L2, and L3 through the ZCT unit. At this time, these cables should be connected to the equipment or inverters.



Connecting example with three-phase Wye (3-wire/4-wire, three-phase solidly-grounded neutral system)

When connecting to the power of three-phase Wye cable, isolation resistance of all equipment including inverters can be measured.

Connect phases (L1, L2, and L3), as well as the ground terminal with the voltage input terminal (L1/T1, L2/T2, L3/T3, and REF) respectively. Then, put three cables of L1, L2, and L3 through the ZCT unit. AT this time, these cables should be connected to the equipment or inverters.

Three-phase Wye (3-wire, three-phase solidly-grounded neutral system)



Three-phase Wye (4-wire, three-phase solidly-grounded neutral system)



A CAUTION

- The motor should be operating at a constant speed while measuring.
- Measuring may not start if the cable is unconnected.
- If the connecting cable is affected by the noise, measuring may not be done accurately. Place the connecting cable away from the noise source.
- If the connecting cable is too long, measuring may not be done accurately. Use the cable shorter than 3.0 meters.

2. Inverter output part measurement (inverter mode)

By measuring the voltage and the zero-phase current of the output part in the inverter, the isolation resistance of the connected three-phase induction motor can be measured.

Voltage measurement cable

Use the voltage measurement cable described below.

Wire	Use copper wires that tolerate the temperature of 75 °C and higher.		
Cable Diameter	AWG24 - 12		
Cable Length	Shorter than 3.0 meters		

*Refer to **"Voltage Measurement Connector"** in the **page 19** for details of the voltage input connector and pin assignment.

Connecting example with inverter powered by three-phase Delta (3-wire, three-phase corner-grounded system)

When connecting to the inverter output powered by three-phase Delta cable, isolation resistance of three-phase induction motor that is connected to the inverter can be measured.

Connect phases (T1, T2, and T3) of inverter output, as well as the ground terminal with the voltage input terminal (L1/T1, L2/T2, L3/T3, and REF) respectively. Then, put three cables of T1, T2, and T3 through the ZCT unit. AT this time, these cables should be connected to the three-phase induction motor.



Connecting example with inverter powered by three-phase Wye (3-wire/4-wire, three-phase solidly-grounded neutral system)

When connecting to the inverter output powered by three-phase Wye cable, isolation resistance of three-phase induction motor that is connected to the inverter can be measured.

Connect phases (T1, T2, and T3) of inverter output, as well as the ground terminal with the voltage input terminal (L1/T1, L2/T2, L3/T3, and REF) respectively. Then, put three cables of T1, T2, and T3 through the ZCT unit. AT this time, these cables should be connected to the three-phase induction motor.



CAUTION

- The motor should be operating at a constant speed while measuring.
- Measuring may not start if the cable is unconnected.
- If the connecting cable is affected by the noise, measuring may not be done accurately. Place the connecting cable away from the noise source.
- If the connecting cable is too long, measurement cannot be done accurately. Use the cable shorter than 3.0 meters.

Appendix

This section lists the specifications and the physical dimensions of the product, and the details of model name.

1.Specifications

1. Specifications

Function Specifications < Product>

Item		CPS-MM-LC	
Measurement function		Leakage current measurement, Isolation resistance measurement	
Measurement method *1		Modes-IO [™]	
The number of me	easurement channels	1	
Applied motor typ	be	Three-phase induction motor (three-phase motor)	
Measurement target circuit	Measurement for the whole equipment	Three-phase Delta (3-wire, three-phase corner-grounded system) Three-phase Wye (3-wire/4-wire, three-phase solidly- grounded neutral system)	
	Measurement for the inverter output section	Three-phase output part (motor) of inverter powered by three-phase Delta (3-wire, three-phase corner-grounded system), three-phase Wye (3-wire/4-wire, three-phase solidly-grounded neutral system).	
Rated input voltag	ge *2	Phase voltage10VAC - 600VAC 50Hz/60Hz three-phase	
Measurement Leakage current	All equipment measurement	0.000mA - 999.999mA	
range	Inverter output part measurement	0.000mA - 99.999mA	
Isolation resistance	e output range	0.000ΜΩ - 999.999ΜΩ	
Measurement tim	e	30sec.	
Leakage current	Leakage current value, Io	±(1% of reading + 300 digits)	
value accuracy *3 (25°C±2°C)	Leakage current value by isolation resistance, Ior	\pm (1% of reading + 10 digits + Io × 0.005)	
Isolation Combined isolation resistance value resistance value, R accuracy*3*4 (25°C±2°C)		$\pm(10\% \text{ of reading } + 100 \text{ digits}) \text{ *when Io=Ior}$	
Isolation specifica	tion	Bus Isolation	
Voltage resistance	e *5	2200VAC	
Voltage measurement connector		2-piece 7.62mm pitch 4-pin terminal	
Applicable wire		AWG24 - 12	
LED		Status (Green, Red)	
Power voltage		24VDC ±10%	
Power consumption	on	0.1A (Max.)	
Physical dimensio	ns (mm)	25.2(W)×94.7(D)×124.8(H) (No projection included)	
Weight		200g	
Installation method		Quick mounting on the 35mm DIN rail	

Item	CPS-MM-LC
Installation environment	Applicable pollution degree 2

*1 The patent theory of TANASHIN DENKI CO., LTD. is applied.

*2 Use in the circuit not exceed CAT III 300V or CAT II 600 V.

*3 Value is when adjusted with standard jig

*4 Accuracy cannot be guaranteed for Isolation resistance value of $10M\Omega$ or greater.

*5 Between voltage measurement connector and stack bus

CAUTION

You can set the modules as you desire to the configurable controller up to 16 modules.

The total current consumption of the modules should be less than 3.3A.

Function Specifications < ZCT unit >

Item	ZCT unit
Structure	Penetrating type
Rated current	100A
Rated voltage	600VAC *6
Penetrating hole diameter	φ25mm
Isolation resistance	2200VAC
Cable length	2.9m
Connector	ZER-11V-S (or equivalent)
Physical dimensions (mm)	37.2(W)×74.5(D)×115.9(H) (No projection included)
Weight	600g
Installation method	With screws

*6 Use an isolated cable to connect through the ZCT unit.

Installation Environment Requirements

Item		CPS-MM-LC	
Operating ambient temperature		-20 - +60°C	
Operating ambie	ent humidity	10 - 90%RH (No condensation)	
Non-operating a temperature	mbient	-20 - +60°C	
Non-operating a	mbient humidity	10 - 90%RH (No condensation)	
Floating dust par	rticles	Not to be excessive	
Corrosive gases		None	
Line-noise	Line noise	Signal Line /±1kV (IEC61000-4-4 Level 3, EN61000-4-4 Level 3)	
resistance	Static electricity resistance	Touch /±4kV (IEC61000-4-2 Level 2, EN61000-4-2 Level 2) Air /±8kV (IEC61000-4-2 Level 3, EN61000-4-2 Level 3)	
Vibration resistance (The product alone) *8	Sweep resistance	10 - 57Hz *7 /semi-amplitude vibration 0.15mm, 57 - 150Hz/2.0G 40minutes each in X, Y, and Z directions (JIS C60068-2-6-compliant, IEC60068-2-6-compliant)	
Shock resistance (The product alone) *7		15G half-sine shock for 11ms in X, Y, and Z directions (JIS C 60068-2-27 –compliant, IEC 60068-2-27 -compliant)	
Altitude		2000m or less	
Pollution degree		2	
Measurement category		CAT III 300V / CAT II 600V	

*7 When you use an optional power product: 10 - 55Hz (See the manual of optional power product for details)

*8 Do not use the ZCT UNIT in a place subject to vibration or shock. It may lead to malfunction or shorter life of the product.

2.Physical Dimensions

1. Product



2. ZCT unit



3.The Details of Model Name

Details of the model name are described below.

No.	Item	Description	
1	Model	ММ	Measurement Module
2	Function	LC	Leakage current

Optional Products

This section lists optional items that can be used along with the product.

1.Optional Products

Optional product items are as follows:

Acquire them as required.

Product Name	Model type	Description
Configurable Type Controller	CPS-MCS341-DS1-111	Configurable type CPU module
	CPS-MCS341-DS1-131	Configurable type CPU module + OPC UA server + MT Connect
	CPS-MCS341G-DS1-130	Configurable type CPU module +3GWAN
	CPS-MCS341Q-DS1-131	Configurable type CPU module +920MHz LAN
DIN rail fitting power supply	CPS-PWD-90AW24-01	Fitting power supply 90W (Input: 100 - 240VAC, Output: 24VDC 3.8 A)
	CPS-PWD-30AW24-01	Fitting power supply 30W (Input: 100 - 240VAC, Output: 24VDC 1.3 A)

Visit the Contec website for the latest optional products.

Website

https://www.contec.com/

Customer Support and Inquiry

CONTEC provides the following support services for you to use CONTEC products more efficiently and comfortably.

1.Services

CONTEC offers the useful information including product manuals that can be downloaded through the Contec website.

https://www.contec.com/download/

You can download updated driver software, firmware, and differential manuals in several languages. Membership registration (myCONTEC) is required to use the services.

SCONTEC .	Sealest - Passes	A Service + Coverante + Da	gori v Ane Control v	A 22
and S Tarlinds				
Downloads				
Product Name Model,	Keywords.			
				<
Category				
File Type				
C Brane - Mahar Branete	F)	(i) = 140 m) Domes	
		Q Savels		

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Revision History

MONTH YEAR	Summary of Changes
September 2018	The First Edition

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