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1 Introduction

1.1 General Information for the users

Thank you for purchasing Rotork YTC Limited products. Each product has been fully inspected after its production to offer you the highest quality and reliable performance. Please read the product manual carefully prior to installing and commissioning the product.

- Installation, commissioning, and maintenance of the product may only be performed by trained specialist personnel who have been authorized by the plant operator accordingly.
- The manual should be provided to the end-user.
- The manual can be altered or revised without any prior notice. Any changes in product's specification, design, and/or any components may not be printed immediately but until the following revision of the manual.
- The manual should not be duplicated or reproduced for any purpose without prior approval from Rotork YTC Limited, Gimpo-si, South Korea.
- In case of any other problems that are not stated in this manual, please make immediate contact to Rotork YTC Limited.
- Position Transmitter is an accessory of the control valve, so please make sure to read the applicable instruction manual of the control valve prior to installation and operation.

1.2 Manufacturer Warranty

- For the safety, it is important to follow the instructions in the manual. Manufacturer will not be responsible for any damages caused by user's negligence.
- Any modifications or repairs to the product may only be performed if expressed in this manual. Injuries and physical damages caused by customer's modifying or repairing the product without a prior consultation with Rotork YTC Limited will not be compensated. If any alterations or modifications are necessary, please contact Rotork YTC Limited directly.
- The warranty period of the product is (18) months from the date of shipment unless stated otherwise. Date of shipment can be checked by providing the LOT NO. or SERIAL NO. to us.
- Manufacturer warranty will not cover products that have been subjected to abuse, accidents, alterations, modifications, tampering, negligence, misuse, faulty installation, lack of reasonable care, repair or service in any way that is not contemplated in the documentation for the product, or if the model or serial number has been altered, tampered with, defaced or removed; damages that occurs in shipment, due to act of God, failure due to power surge, or cosmetic damage. Improper or incorrectly performed maintenance will void this limited warranty.
- For detailed warranty information, please contact the corresponding local Rotork YTC Limited office or main office in South Korea.

2 Product Description

2.1 General

SPTM-5V series is 2 wire type transmitter with in-built micro-processor which transmits 4 ~ 20 mA DC signal according to changes in valve or damper position.

2.2 Main Features and Functions

- Non-explosion proof.
- A wide range of uses with IP67 protection grade.
- LCD displays current output signal. (Option)
- Very easy and simple calibration.
- Polyester powder coating of SPTM-5V resists the corrosion process.

2.3 Label Description

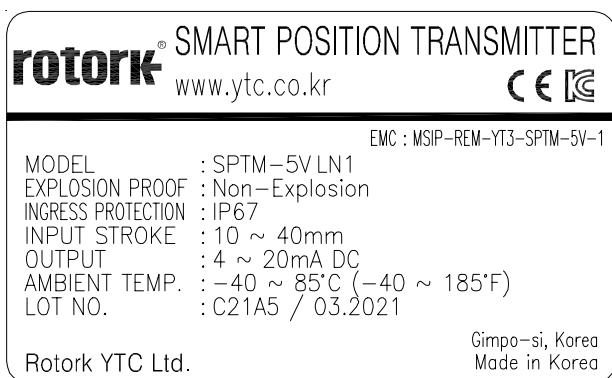


Fig. L-1: Non-explosion proof

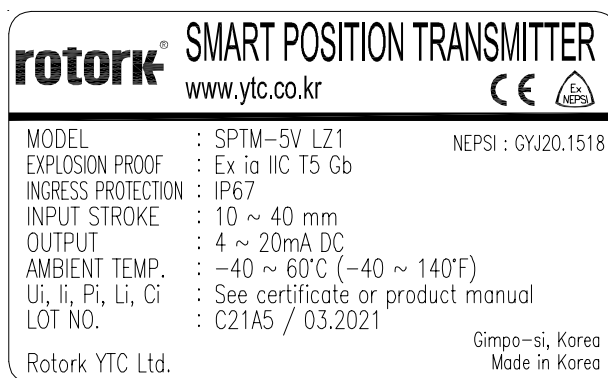


Fig. L-2: Intrinsic safety type (NEPSI)

- | | |
|------------------------|---|
| • MODEL : | Indicates the model number and additional symbols. |
| • EXPLOSION PROOF : | Indicates certified explosion proof grade. |
| • INGRESS PROTECTION : | Indicates enclosure protection grade. |
| • INPUT STROKE : | Indicates input stroke. |
| • OUTPUT : | Indicates output signal range. |
| • AMBIENT TEMP. : | Indicates allowed ambient temperature range. |
| • Ui, li, Pi, Ci, Li : | Indicates the allowable electrical data in the certificate. |
| • LOT NO. : | Indicates unique lot number. |
| • MONTH. YEAR : | Indicates manufactured month and year |

2.4 Product Code

SPTM-5V 1 2 3 4

1 Motion Type		L : Linear R : Rotary
2 Explosion Proof		N : Non-Explosion Z : Ex ia IIC T5 Gb (NEPSI) E : 1Ex ia IIC T5 Gb IP67 (EAC)
3 Lever Type	Linear	1 : 10 ~ 40 mm 2 : 20 ~ 70 mm 3 : 50 ~ 100 mm 4 : 100 ~ 150 mm
	Rotary	1 : Standard Lever type 2 : NAMUR type
4 Option		0 : None 1 : With LCD

2.5 Product Specification

Model		SPTM-5VL	SPTM-5VR
Motion Type		Linear	Rotary
Connection Type		2 Wire	
Input Stroke		10 ~ 150 mm	55 ~ 100°
Output Signal		4 ~ 20 mA DC	
External Load Resistance		$R_{ext} \leq (V_s - 9) / 20 \text{ mA}$, 750 ohms @ $V_s = 24 \text{ V}$	
Supply Voltage		9 ~ 28 V DC	
Conduit Entry		G 1/2	
Explosion Proof		1. Non-Explosion proof 2. Intrinsic safety : NEPSI, EAC ※ See “2.6 Certificates” for details	
Ingress Protection		IP 67	
Ambient Temperature	Operating	-40 ~ 85 °C (-40 ~ 185 °F)	
	Explosion Proof	NEPSI : -40 ~ 60 °C (-40 ~ 140 °F) EAC : -60 ~ 60 °C (-76 ~ 140 °F)	
Linearity		± 1 % F.S.	
Hysteresis		± 0.2 % F.S.	
Sensitivity		± 0.2 % F.S.	
Housing Material		Aluminum	
Painting		Polyester Powder Coating	
Weight		0.6 kg (1.3 lb)	



Tested under ambient temperature of 20 °C, absolute pressure of 760 mmHg, and humidity of 65 %.

Please contact Rotork YTC Limited for detailed testing specification.



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1 Introduction

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- The warranty period of the product is (18) months from the date of shipment unless stated otherwise. Date of shipment can be checked by providing the LOT NO. or SERIAL NO. to us.
- Manufacturer warranty will not cover products that have been subjected to abuse, accidents, alterations, modifications, tampering, negligence, misuse, faulty installation, lack of reasonable care, repair or service in any way that is not contemplated in the documentation for the product, or if the model or serial number has been altered, tampered with, defaced or removed; damages that occurs in shipment, due to act of God, failure due to power surge, or cosmetic damage. Improper or incorrectly performed maintenance will void this limited warranty.
- For detailed warranty information, please contact the corresponding local Rotork YTC Limited office or main office in South Korea.

1.3 Explosion Proof Warning

Please ensure the unit is being used and installed in conformity with local, regional, and national explosion proof within the explosion proof certified environment.



- SPTM-6V / 65V is Explosion proof construction for internal pressure.
For detail information, refer to “2.6 Certifications”
- Explosion proof type of cables and gaskets should be used, when explosion gases are present at the installation site. Please make sure that the sealing has been done completely.
- Keep cover tight while circuits are alive.
- Power should be turned off completely when opening product's cover. When opening the cover, ensure that there is no power remaining in any electrical parts nearby.
- This product has 2 ports for power connection. Please make sure that Blind plug is tightened to the port when any port is not being used.
- Ring terminal with surface area of more than 1.25 mm² with M4 spring washer should be used to connect the power.
- For external ground terminal, ring terminal with surface area of more than 5.5 mm² should be used.
- There is risk of explosion due to electro-static charge. Static electricity charge may develop when cleaning the product with a dry cloth. It is imperative to avoid static electricity charge in the hazardous environment. If cleaning the surface of the product is needed, must use wet clothes.

2 Product Description

2.1 General

SPTM-6V / 65V series is 2 wire type transmitter with in-built micro-processor which transmits 4 ~ 20 mA DC signal according to changes in valve or damper position.

2.2 Main Features and Functions

- Designed to be flameproof enclosure.
- A wide range of uses with IP67 protection grade.
- LCD displays current output signal.
- Very easy and simple calibration.
- Polyester powder coating of SPTM-6V resists the corrosion process. (except SPTM-65V)

2.3 Label Description

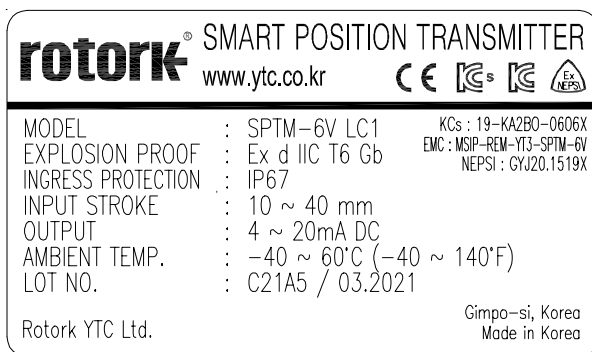


Fig. L-1: SPTM-6V (KCs, NEPSI)

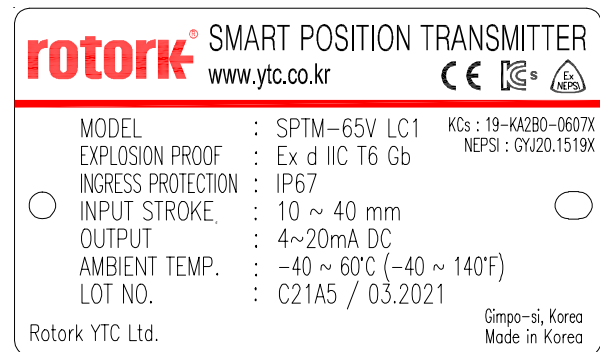


Fig. L-2: SPTM-65V (KCs, NEPSI)

- MODEL : Indicates the model number and additional symbols.
- EXPLOSION PROOF : Indicates certified explosion proof grade.
- INGRESS PROTECTION : Indicates enclosure protection grade.
- INPUT STROKE : Indicates input rotation angle.
- OUTPUT : Indicates output signal range.
- AMBIENT TEMPERATURE : Indicates allowed explosion proof ambient temperature range.
- LOT NO. : Indicates unique lot number.
- MONTH.YEAR : Indicates manufactured month and year.



Fig. L-3: SPTM-6V (EAC)



Fig. L-4: SPTM-65V (EAC)

2.4 Product Code

SPTM-6V / 65V 1 2 3

1	Motion Type	L : Linear
		R : Rotary
2	Explosion Proof	C : Ex d IIC T6 (KCs)
		¹⁾ Z : Ex d IIC T6 Gb (NEPSI)
		E : 1Ex d IIC T6 Gb (EAC)
3	Lever Type	1 : 10 ~ 40 mm
		2 : 20 ~ 70 mm
		3 : 50 ~ 100 mm
		4 : 100 ~ 150 mm
	Rotary	1 : Standard Lever type
		2 : NAMUR type

¹⁾ The threads of the conduit entry are 1/2 NPT for NEPSI, and G 1/2 for others.

2.5 Product Specification

Model		SPTM-6V	SPTM-65V
Connection Type		2 Wire	
Input Stroke	Linear	10 ~ 150 mm	
	Rotary	55 ~ 100°	
Output Signal		4 ~ 20 mA DC	
External Load Resistance		$R_{ext} \leq (V_s - 9) / 20 \text{ mA}$, 750 ohms @ $V_s = 24 \text{ V}$	
Supply Voltage		9 ~ 28 V DC	
Conduit Entry		G 1/2 (except NEPSI) or 1/2 NPT(only NEPSI)	
Explosion Proof		Flameproof enclosure. Refer to "2.6 Certifications"	
Ingress Protection		IP 67	
Ambient Temperature	Operating	-40 ~ 85 °C (-40 ~ 185 °F)	
	Explosion Proof	KCs, NEPSI : -40 ~ 60 °C (-40 ~ 140 °F) EAC : -60 ~ 60 °C (-40 ~ 140 °F)	
Linearity		± 1 % F.S.	
Hysteresis		± 0.2 % F.S.	
Sensitivity		± 0.2 % F.S.	
Housing Material		Aluminum	Stainless steel 316
Painting		Polyester Powder Coating	-
Weight		1.3 kg (2.91 lb)	2.8 kg (6.17 lb)



Tested under ambient temperature of 20 °C, absolute pressure of 760 mmHg, and humidity of 65 %.

Please contact Rotork YTC Limited for detailed testing specification.