



제16-0852호

안 전 인 증 서

R. STAHL Schaltgeraete

Am bahnhof 30 74638 Waldenburg, GERMANY

위 사업장에서 신청하는 아래의 품목이 「산업안전보건법」 제34조 및 같은 법 시행규칙 제58조의4제4항에 따른 안전인증 심사 결과 안전·보건기준에 적합하므로 안전인증표시의 사용을 인증합니다.

_____ 품 목 _____

Control and Distribution Panel

_____ 형식 · 모델 / 용량 · 등급 / 인증번호 _____

형식 · 모델	용량 · 등급	인증번호
8146/5000	Max. 1100 V, Max 630 A Ex d e m IIC T6...T4	16-GA4BO-0852

_____ 인 증 기 준 _____

방호장치 의무안전인증 고시(고용노동부고시 제2013-54호)

_____ 인 증 조 건 _____

뒷면 인증조건 참조

2016 년 12 월 20 일

한국가스안전공사 사장





인 증 조 건

1. 제조공장

- "Am bahnhof 30 74638 Waldenburg, Germany" 에 위치한 R. STAHL Schaltgeraete 에서 제조하는 아래 인증범위의 제품에 한함.

2. 제품개요

- The control and distribution panel, type 8146/5***-** consist of an glass fiber reinforced enclosure made of polyester of type of protection Increased Safety "e" or Protection by Enclosure "tb" which can be equipped with flanges if necessary. Several boxes can be combined with one another. It is used for the installation of control, regulating and measuring devices as well as terminals for intrinsically safe and non-intrinsically safe circuits and can be equipped with actuators, indicating lamps, and inspection windows, if required. The panel area intended for intrinsically safe circuits will be marked e.g. by a specific color (light-blue) or a warning label. Connection will be by means of explosion-proof cable entries. All built-in and add-on components have been tested and certified under a separate test certificate.

3. 인증범위

- 첨부 참조

4. 안전한 사용을 위한 조건

가. 제품 사용 시 사용설명서를 참고할 것.

나. Notes for manufacturing and operation:

The Control and Distribution Panel with a coating of polyester powder must not be used in areas affected by charge-producing processes, mechanical friction and separation processes, electron emission (e.g. in the vicinity of electrostatic coating equipment), and pneumatically conveyed dust. The type of protection can only be provided by following the information and instructions provided by the manufacturer and also the components are properly installed in the enclosure, the enclosures cover or rather the electrical equipment. When installing the components in the electrical equipment, measures shall be taken to ensure that the temperatures at the place of installation remain within the permitted operation temperature range of the components.

다. Determination of the temperature class:

The temperature class T6, T5 or T4 will be defined during the routine test depending on the self heating of the components and the ambient temperature.

라. "8146/5000" 사용 시 첨부 (2 of 2)에 나열된 "Combination List"에 명시된 제품의 조합으로만 사용 가능함.

5. 인증(변경)사항

- IECEx PTB 06.0090 Issue No. 2 을 바탕으로 작성되었음.

6. 그 밖의 사항

- 안전인증품의 품질관리, 확인심사 수검, 변경사항 신고 등 인증 받은 자의 의무 준수.





[첨부] 16-GA4BO-0852

(1 of 2)

가. Dimensions of the enclosure:

Type	Length [mm]	Width [mm]	Depth [mm]
8146/5000	Combination	Combination	Combination

나. Technical Data:

Rated voltage ¹⁾	up to 1100 V
Rated current ²⁾	max. 630 A
Rated cross section ³⁾	max. 300 mm ²
Ambient temperature ⁴⁾	T4 : -60 °C ≤ Ta ≤ +70°C T5 : -60 °C ≤ Ta ≤ +55°C T6 : -60 °C ≤ Ta ≤ +40°C
Protection against contact, foreign bodies and water	IP66 acc. to EN 60529

※ 1), 2), 3) : Depending on the type of terminal and Ex-components used.

※ 4) : The maximum ambient temperature range depends on the maximum ambient temperatures and the power dissipations of the built-in components and of the temperature class rating.

※ The rated values are maximum values; the actual electrical values depend on the electrical equipment incorporated. Within the scope of these maximum permissible values and with due regard to the standards, the manufacturer specifies the final rated values dependent on the system conditions, mode of operation, utilization category, etc. The characteristic values of the intrinsically safe circuits are to be given by the manufacturer on his own responsibility. The maximum permissible ambient temperature range of the terminal housing can be limited by the maximum permissible ambient temperature ranges of the separately certified equipment. The composition of the protection symbol will be based on the types of protection of components actually used.

다. Nomenclature:

8146	/	5	*	*	*	-	*	*
a	/	b	c	d	-	e		

a) Type / Series

b) Design

5 = Control and distribution panel Ex e...

c) Enclosure length x width [mm]:

00 = Combination
03 = 112.5 x 112.5
04 = 170.0 x 112.5
24 = 227.0 x 112.5
05 = 170.0 x 170.0
06 = 227.0 x 170.0
07 = 340.5 x 170.0
B7 = 340.5 x 170.0
S7 = 340.5 x 170.0
08 = 340.5 x 340.5
09 = 681.5 x 340.5

d) Enclosure, height [mm]:

0 = Combination
1 = 91
2 = 131
3 = 150
4 = 171
5 = 190
6 = 230

e) Further information without reference to explosion protection



[첨부] 16-GA4BO-0852

(2 of 2)

라. Combination List:

Type	Length [mm]	Width [mm]	Depth [mm]
8146/5000	Combination	Combination	Combination
8146/5031	112.5	112.5	91
8146/5041	170.0	112.5	91
8146/5241	227.0	112.5	91
8146/5051	170.0	170.0	91
8146/5061	227.0	170.0	91
8146/5071	340.5	170.0	91
8146/5073	340.5	170.0	150
8146/5075	340.5	170.0	190
8146/5S71	340.5	170.0	91
8146/5S73	340.5	170.0	150
8146/5B73	340.5	170.0	150
8146/5B75	340.5	170.0	190
8146/5081	340.5	340.5	91
8146/5083	340.5	340.5	150
8146/5084	340.5	340.5	171
8146/5085	340.5	340.5	190
8146/5086	340.5	340.5	230
8146/5091	681.5	340.5	91
8146/5093	681.5	340.5	150
8146/5095	681.5	340.5	190





제16-0853호

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Am bahnhof 30 74638 Waldenburg, GERMANY

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_____ 품 목 _____

Control and Distribution Panel

_____ 형식 · 모델 / 용량 · 등급 / 인증번호 _____

형식 · 모델	용량 · 등급	인증번호
8146/5031	Max. 1100 V, Max 630 A	16-GA4BO-0853
	Ex d e m IIC T6...T4	

_____ 인 증 기 준 _____

방호장치 의무안전인증 고시(고용노동부고시 제2013-54호)

_____ 인 증 조 건 _____

뒷면 인증조건 참조

2016 년 12 월 20 일

한국가스안전공사 사장





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- 첨부 참조

4. 안전한 사용을 위한 조건

가. 제품 사용 시 사용설명서를 참고할 것.

나. Notes for manufacturing and operation:

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다. Determination of the temperature class:

The temperature class T6, T5 or T4 will be defined during the routine test depending on the self heating of the components and the ambient temperature.

5. 인증(변경)사항

- IECEx PTB 06.0090 Issue No. 2 을 바탕으로 작성되었음.

6. 그 밖의 사항

- 안전인증품의 품질관리, 확인심사 수검, 변경사항 신고 등 인증 받은 자의 의무 준수.





[첨부] 16-GA4BO-0853

(1 of 1)

가. Dimensions of the enclosure:

Type	Length [mm]	Width [mm]	Depth [mm]
8146/5031	112.5	112.5	91

나. Technical Data:

Rated voltage ¹⁾	up to 1100 V
Rated current ²⁾	max. 630 A
Rated cross section ³⁾	max. 300 mm ²
Ambient temperature ⁴⁾	T4 : -60 °C ≤ Ta ≤ +70°C T5 : -60 °C ≤ Ta ≤ +55°C T6 : -60 °C ≤ Ta ≤ +40°C
Protection against contact, foreign bodies and water	IP66 acc. to EN 60529

※ 1), 2), 3) : Depending on the type of terminal and Ex-components used.

※ 4) : The maximum ambient temperature range depends on the maximum ambient temperatures and the power dissipations of the built-in components and of the temperature class rating.

※ The rated values are maximum values; the actual electrical values depend on the electrical equipment incorporated. Within the scope of these maximum permissible values and with due regard to the standards, the manufacturer specifies the final rated values dependent on the system conditions, mode of operation, utilization category, etc. The characteristic values of the intrinsically safe circuits are to be given by the manufacturer on his own responsibility. The maximum permissible ambient temperature range of the terminal housing can be limited by the maximum permissible ambient temperature ranges of the separately certified equipment. The composition of the protection symbol will be based on the types of protection of components actually used.

다. Nomenclature:

8146	/	5	*	*	*	-	*	*
a	/	b	c	d	-	e		

a) Type / Series

b) Design

5 = Control and distribution panel Ex e...

c) Enclosure length x width [mm]:

00 = Combination
03 = 112.5 x 112.5
04 = 170.0 x 112.5
24 = 227.0 x 112.5
05 = 170.0 x 170.0
06 = 227.0 x 170.0
07 = 340.5 x 170.0
B7 = 340.5 x 170.0
S7 = 340.5 x 170.0
08 = 340.5 x 340.5
09 = 681.5 x 340.5

d) Enclosure, height [mm]:

0 = Combination
1 = 91
2 = 131
3 = 150
4 = 171
5 = 190
6 = 230

e) Further information without reference to explosion protection



제16-0854호

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품 목

Control and Distribution Panel

형식 · 모델 / 용량 · 등급 / 인증번호

형식 · 모델	용량 · 등급	인증번호
8146/5041	Max. 1100 V, Max 630 A Ex d e m IIC T6...T4	16-GA4BO-0854

인 증 기 준

방호장치 의무안전인증 고시(고용노동부고시 제2013-54호)

인 증 조 건

뒷면 인증조건 참조

2016 년 12 월 20 일

한국가스안전공사 사장





인 증 조 건

1. 제조공장

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다. Determination of the temperature class:

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- 안전인증품의 품질관리, 확인심사 수검, 변경사항 신고 등 인증 받은 자의 의무 준수.





[첨부] 16-GA4BO-0854

(1 of 1)

가. Dimensions of the enclosure:

Type	Length [mm]	Width [mm]	Depth [mm]
8146/5041	170.0	112.5	91

나. Technical Data:

Rated voltage ¹⁾	up to 1100 V
Rated current ²⁾	max. 630 A
Rated cross section ³⁾	max. 300 mm ²
Ambient temperature ⁴⁾	T4 : -60 °C ≤ Ta ≤ +70°C T5 : -60 °C ≤ Ta ≤ +55°C T6 : -60 °C ≤ Ta ≤ +40°C
Protection against contact, foreign bodies and water	IP66 acc. to EN 60529

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다. Nomenclature:

8146	/	5	*	*	*	-	*	*
a	/	b	c	d	-	e		

a) Type / Series

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5 = Control and distribution panel Ex e...

c) Enclosure length x width [mm]:

00 = Combination
03 = 112.5 x 112.5
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B7 = 340.5 x 170.0
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d) Enclosure, height [mm]:

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6 = 230

e) Further information without reference to explosion protection



제16-0855호

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품 목

Control and Distribution Panel

형식 · 모델 / 용량 · 등급 / 인증번호

형식 · 모델	용량 · 등급	인증번호
8146/5241	Max. 1100 V, Max 630 A	16-GA4BO-0855
	Ex d e m IIC T6...T4	

인 증 기 준

방호장치 의무안전인증 고시(고용노동부고시 제2013-54호)

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[첨부] 16-GA4BO-0855

(1 of 1)

가. Dimensions of the enclosure:

Type	Length [mm]	Width [mm]	Depth [mm]
8146/5241	227.0	112.5	91

나. Technical Data:

Rated voltage ¹⁾	up to 1100 V
Rated current ²⁾	max. 630 A
Rated cross section ³⁾	max. 300 mm ²
Ambient temperature ⁴⁾	T4 : -60 °C ≤ Ta ≤ +70°C T5 : -60 °C ≤ Ta ≤ +55°C T6 : -60 °C ≤ Ta ≤ +40°C
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a	/	b	c	d	-	e		

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d) Enclosure, height [mm]:

0 = Combination

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2 = 131

3 = 150

4 = 171

5 = 190

6 = 230

e) Further information without reference to explosion protection



제16-0856호

안 전 인 증 서

R. STAHL Schaltgeraete

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_____ 품 목 _____

Control and Distribution Panel

_____ 형식 · 모델 / 용량 · 등급 / 인증번호 _____

형식 · 모델	용량 · 등급	인증번호
8146/5051	Max. 1100 V, Max 630 A	16-GA4BO-0856
	Ex d e m IIC T6...T4	

_____ 인 증 기 준 _____

방호장치 의무안전인증 고시(고용노동부고시 제2013-54호)

_____ 인 증 조 건 _____

뒷면 인증조건 참조

2016 년 12 월 20 일

한국가스안전공사 사장





인 증 조 건

1. 제조공장

- "Am bahnhof 30 74638 Waldenburg, Germany" 에 위치한 R. STAHL Schaltgeraete 에서 제조하는 아래 인증범위의 제품에 한함.

2. 제품개요

- The control and distribution panel, type 8146/5***-*** consist of an glass fiber reinforced enclosure made of polyester of type of protection Increased Safety "e" or Protection by Enclosure "tb" which can be equipped with flanges if necessary. Several boxes can be combined with one another. It is used for the installation of control, regulating and measuring devices as well as terminals for intrinsically safe and non-intrinsically safe circuits and can be equipped with actuators, indicating lamps, and inspection windows, if required. The panel area intended for intrinsically safe circuits will be marked e.g. by a specific color (light-blue) or a warning label. Connection will be by means of explosion-proof cable entries. All built-in and add-on components have been tested and certified under a separate test certificate.

3. 인증범위

- 첨부 참조

4. 안전한 사용을 위한 조건

가. 제품 사용 시 사용설명서를 참고할 것.

나. Notes for manufacturing and operation:

The Control and Distribution Panel with a coating of polyester powder must not be used in areas affected by charge-producing processes, mechanical friction and separation processes, electron emission (e.g. in the vicinity of electrostatic coating equipment), and pneumatically conveyed dust. The type of protection can only be provided by following the information and instructions provided by the manufacturer and also the components are properly installed in the enclosure, the enclosures cover or rather the electrical equipment. When installing the components in the electrical equipment, measures shall be taken to ensure that the temperatures at the place of installation remain within the permitted operation temperature range of the components.

다. Determination of the temperature class:

The temperature class T6, T5 or T4 will be defined during the routine test depending on the self heating of the components and the ambient temperature.

5. 인증(변경)사항

- IECEx PTB 06.0090 Issue No. 2 을 바탕으로 작성되었음.

6. 그 밖의 사항

- 안전인증품의 품질관리, 확인심사 수검, 변경사항 신고 등 인증 받은 자의 의무 준수.





[첨부] 16-GA4BO-0856

(1 of 1)

가. Dimensions of the enclosure:

Type	Length [mm]	Width [mm]	Depth [mm]
8146/5051	170.0	170.0	91

나. Technical Data:

Rated voltage ¹⁾	up to 1100 V
Rated current ²⁾	max. 630 A
Rated cross section ³⁾	max. 300 mm ²
Ambient temperature ⁴⁾	T4 : -60 °C ≤ Ta ≤ +70°C T5 : -60 °C ≤ Ta ≤ +55°C T6 : -60 °C ≤ Ta ≤ +40°C
Protection against contact, foreign bodies and water	IP66 acc. to EN 60529

※ 1), 2), 3) : Depending on the type of terminal and Ex-components used.

※ 4) : The maximum ambient temperature range depends on the maximum ambient temperatures and the power dissipations of the built-in components and of the temperature class rating.

※ The rated values are maximum values; the actual electrical values depend on the electrical equipment incorporated. Within the scope of these maximum permissible values and with due regard to the standards, the manufacturer specifies the final rated values dependent on the system conditions, mode of operation, utilization category, etc. The characteristic values of the intrinsically safe circuits are to be given by the manufacturer on his own responsibility. The maximum permissible ambient temperature range of the terminal housing can be limited by the maximum permissible ambient temperature ranges of the separately certified equipment. The composition of the protection symbol will be based on the types of protection of components actually used.

다. Nomenclature:

8146	/	5	*	*	*	-	*	*
a	/	b	c		d	-	e	

a) Type / Series

b) Design

5 = Control and distribution panel Ex e...

c) Enclosure length x width [mm]:

00 = Combination
03 = 112.5 x 112.5
04 = 170.0 x 112.5
24 = 227.0 x 112.5
05 = 170.0 x 170.0
06 = 227.0 x 170.0
07 = 340.5 x 170.0
B7 = 340.5 x 170.0
S7 = 340.5 x 170.0
08 = 340.5 x 340.5
09 = 681.5 x 340.5

d) Enclosure, height [mm]:

0 = Combination
1 = 91
2 = 131
3 = 150
4 = 171
5 = 190
6 = 230

e) Further information without reference to explosion protection



제16-0857호

안 전 인 증 서

R. STAHL Schaltgeraete

Am bahnhof 30 74638 Waldenburg, GERMANY

위 사업장에서 신청하는 아래의 품목이 「산업안전보건법」 제34조 및 같은 법 시행규칙 제58조의4제4항에 따른 안전인증 심사 결과 안전·보건기준에 적합하므로 안전인증표시의 사용을 인증합니다.

_____ 품 목 _____

Control and Distribution Panel

_____ 형식 · 모델 / 용량 · 등급 / 인증번호 _____

형식 · 모델	용량 · 등급	인증번호
8146/5061	Max. 1100 V, Max 630 A Ex d e m IIC T6...T4	16-GA4BO-0857

_____ 인 증 기 준 _____

방호장치 의무안전인증 고시(고용노동부고시 제2013-54호)

_____ 인 증 조 건 _____

뒷면 인증조건 참조

2016 년 12 월 20 일

한국가스안전공사 사장





인 증 조 건

1. 제조공장

- "Am bahnhof 30 74638 Waldenburg, Germany" 에 위치한 R. STAHL Schaltgeraete 에서 제조하는 아래 인증범위의 제품에 한함.

2. 제품개요

- The control and distribution panel, type 8146/5***--** consist of an glass fiber reinforced enclosure made of polyester of type of protection Increased Safety "e" or Protection by Enclosure "tb" which can be equipped with flanges if necessary. Several boxes can be combined with one another. It is used for the installation of control, regulating and measuring devices as well as terminals for intrinsically safe and non-intrinsically safe circuits and can be equipped with actuators, indicating lamps, and inspection windows, if required. The panel area intended for intrinsically safe circuits will be marked e.g. by a specific color (light-blue) or a warning label. Connection will be by means of explosion-proof cable entries. All built-in and add-on components have been tested and certified under a separate test certificate.

3. 인증범위

- 첨부 참조

4. 안전한 사용을 위한 조건

가. 제품 사용 시 사용설명서를 참고할 것.

나. Notes for manufacturing and operation:

The Control and Distribution Panel with a coating of polyester powder must not be used in areas affected by charge-producing processes, mechanical friction and separation processes, electron emission (e.g. in the vicinity of electrostatic coating equipment), and pneumatically conveyed dust. The type of protection can only be provided by following the information and instructions provided by the manufacturer and also the components are properly installed in the enclosure, the enclosures cover or rather the electrical equipment. When installing the components in the electrical equipment, measures shall be taken to ensure that the temperatures at the place of installation remain within the permitted operation temperature range of the components.

다. Determination of the temperature class:

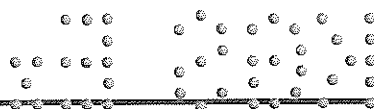
The temperature class T6, T5 or T4 will be defined during the routine test depending on the self heating of the components and the ambient temperature.

5. 인증(변경)사항

- IECEx PTB 06.0090 Issue No. 2 을 바탕으로 작성되었음.

6. 그 밖의 사항

- 안전인증품의 품질관리, 확인심사 수검, 변경사항 신고 등 인증 받은 자의 의무 준수.





[첨부] 16-GA4BO-0857

(1 of 1)

가. Dimensions of the enclosure:

Type	Length [mm]	Width [mm]	Depth [mm]
8146/5061	227.0	170.0	91

나. Technical Data:

Rated voltage ¹⁾	up to 1100 V
Rated current ²⁾	max. 630 A
Rated cross section ³⁾	max. 300 mm ²
Ambient temperature ⁴⁾	T4 : -60 °C ≤ Ta ≤ +70°C T5 : -60 °C ≤ Ta ≤ +55°C T6 : -60 °C ≤ Ta ≤ +40°C
Protection against contact, foreign bodies and water	IP66 acc. to EN 60529

※ 1), 2), 3) : Depending on the type of terminal and Ex-components used.

※ 4) : The maximum ambient temperature range depends on the maximum ambient temperatures and the power dissipations of the built-in components and of the temperature class rating.

※ The rated values are maximum values; the actual electrical values depend on the electrical equipment incorporated. Within the scope of these maximum permissible values and with due regard to the standards, the manufacturer specifies the final rated values dependent on the system conditions, mode of operation, utilization category, etc. The characteristic values of the intrinsically safe circuits are to be given by the manufacturer on his own responsibility. The maximum permissible ambient temperature range of the terminal housing can be limited by the maximum permissible ambient temperature ranges of the separately certified equipment. The composition of the protection symbol will be based on the types of protection of components actually used.

다. Nomenclature:

8146	/	5	*	*	*	-	*	*
a	/	b	c		d	-	e	

a) Type / Series

b) Design

5 = Control and distribution panel Ex e...

c) Enclosure length x width [mm]:

00 = Combination
03 = 112.5 x 112.5
04 = 170.0 x 112.5
24 = 227.0 x 112.5
05 = 170.0 x 170.0
06 = 227.0 x 170.0
07 = 340.5 x 170.0
B7 = 340.5 x 170.0
S7 = 340.5 x 170.0
08 = 340.5 x 340.5
09 = 681.5 x 340.5

d) Enclosure, height [mm]:

0 = Combination
1 = 91
2 = 131
3 = 150
4 = 171
5 = 190
6 = 230

e) Further information without reference to explosion protection



제 16-0858호

안 전 인 증 서

R. STAHL Schaltgeraete

Am bahnhof 30 74638 Waldenburg, GERMANY

위 사업장에서 신청하는 아래의 품목이 「산업안전보건법」 제34조 및 같은 법 시행규칙 제58조의4제4항에 따른 안전인증 심사 결과 안전·보건기준에 적합하므로 안전인증표시의 사용을 인증합니다.

품 목

Control and Distribution Panel

형식 · 모델 / 용량 · 등급 / 인증번호

형식 · 모델	용량 · 등급	인증번호
8146/5071	Max. 1100 V, Max 630 A	16-GA4BO-0858
	Ex d e m IIC T6...T4	

인 증 기 준

방호장치 의무안전인증 고시(고용노동부고시 제2013-54호)

인 증 조 건

뒷면 인증조건 참조

2016 년 12 월 20 일

한국가스안전공사 사장





인 증 조 건

1. 제조공장

- "Am bahnhof 30 74638 Waldenburg, Germany" 에 위치한 R. STAHL Schaltgeraete 에서 제조하는 아래 인증범위의 제품에 한함.

2. 제품개요

- The control and distribution panel, type 8146/5***-*** consist of an glass fiber reinforced enclosure made of polyester of type of protection Increased Safety "e" or Protection by Enclosure "tb" which can be equipped with flanges if necessary. Several boxes can be combined with one another. It is used for the installation of control, regulating and measuring devices as well as terminals for intrinsically safe and non-intrinsically safe circuits and can be equipped with actuators, indicating lamps, and inspection windows, if required. The panel area intended for intrinsically safe circuits will be marked e.g. by a specific color (light-blue) or a warning label. Connection will be by means of explosion-proof cable entries. All built-in and add-on components have been tested and certified under a separate test certificate.

3. 인증범위

- 첨부 참조

4. 안전한 사용을 위한 조건

가. 제품 사용 시 사용설명서를 참고할 것.

나. Notes for manufacturing and operation:

The Control and Distribution Panel with a coating of polyester powder must not be used in areas affected by charge-producing processes, mechanical friction and separation processes, electron emission (e.g. in the vicinity of electrostatic coating equipment), and pneumatically conveyed dust. The type of protection can only be provided by following the information and instructions provided by the manufacturer and also the components are properly installed in the enclosure, the enclosures cover or rather the electrical equipment. When installing the components in the electrical equipment, measures shall be taken to ensure that the temperatures at the place of installation remain within the permitted operation temperature range of the components.

다. Determination of the temperature class:

The temperature class T6, T5 or T4 will be defined during the routine test depending on the self heating of the components and the ambient temperature.

5. 인증(변경)사항

- IECEx PTB 06.0090 Issue No. 2 을 바탕으로 작성되었음.

6. 그 밖의 사항

- 안전인증품의 품질관리, 확인심사 수검, 변경사항 신고 등 인증 받은 자의 의무 준수.





[첨부] 16-GA4BO-0858

(1 of 1)

가. Dimensions of the enclosure:

Type	Length [mm]	Width [mm]	Depth [mm]
8146/5071	340.5	170.0	91

나. Technical Data:

Rated voltage ¹⁾	up to 1100 V
Rated current ²⁾	max. 630 A
Rated cross section ³⁾	max. 300 mm ²
Ambient temperature ⁴⁾	T4 : -60 °C ≤ Ta ≤ +70°C T5 : -60 °C ≤ Ta ≤ +55°C T6 : -60 °C ≤ Ta ≤ +40°C
Protection against contact, foreign bodies and water	IP66 acc. to EN 60529

※ 1), 2), 3) : Depending on the type of terminal and Ex-components used.

※ 4) : The maximum ambient temperature range depends on the maximum ambient temperatures and the power dissipations of the built-in components and of the temperature class rating.

※ The rated values are maximum values; the actual electrical values depend on the electrical equipment incorporated. Within the scope of these maximum permissible values and with due regard to the standards, the manufacturer specifies the final rated values dependent on the system conditions, mode of operation, utilization category, etc. The characteristic values of the intrinsically safe circuits are to be given by the manufacturer on his own responsibility. The maximum permissible ambient temperature range of the terminal housing can be limited by the maximum permissible ambient temperature ranges of the separately certified equipment. The composition of the protection symbol will be based on the types of protection of components actually used.

다. Nomenclature:

8146	/	5	*	*	*	-	*	*
a	/	b	c		d	-	e	

a) Type / Series

b) Design

5 = Control and distribution panel Ex e...

c) Enclosure length x width [mm]:

00 = Combination

03 = 112.5 x 112.5

04 = 170.0 x 112.5

24 = 227.0 x 112.5

05 = 170.0 x 170.0

06 = 227.0 x 170.0

07 = 340.5 x 170.0

B7 = 340.5 x 170.0

S7 = 340.5 x 170.0

08 = 340.5 x 340.5

09 = 681.5 x 340.5

d) Enclosure, height [mm]:

0 = Combination

1 = 91

2 = 131

3 = 150

4 = 171

5 = 190

6 = 230

e) Further information without reference to explosion protection



제16-0859호

안 전 인 증 서

R. STAHL Schaltgeraete

Am bahnhof 30 74638 Waldenburg, GERMANY

위 사업장에서 신청하는 아래의 품목이 「산업안전보건법」 제34조 및 같은 법 시행규칙 제58조의4제4항에 따른 안전인증 심사 결과 안전·보건기준에 적합하므로 안전인증표시의 사용을 인증합니다.

품 목

Control and Distribution Panel

형식 · 모델 / 용량 · 등급 / 인증번호

형식 · 모델	용량 · 등급	인증번호
8146/5073	Max. 1100 V, Max 630 A	16-GA4BO-0859
	Ex d e m IIC T6...T4	

인 증 기 준

방호장치 의무안전인증 고시(고용노동부고시 제2013-54호)

인 증 조 건

뒷면 인증조건 참조

2016 년 12 월 20 일

한국가스안전공사 사장





인 증 조 건

1. 제조공장

- "Am bahnhof 30 74638 Waldenburg, Germany" 에 위치한 R. STAHL Schaltgeraete 에서 제조하는 아래 인증범위의 제품에 한함.

2. 제품개요

- The control and distribution panel, type 8146/5***-*** consist of an glass fiber reinforced enclosure made of polyester of type of protection Increased Safety "e" or Protection by Enclosure "tb" which can be equipped with flanges if necessary. Several boxes can be combined with one another. It is used for the installation of control, regulating and measuring devices as well as terminals for intrinsically safe and non-intrinsically safe circuits and can be equipped with actuators, indicating lamps, and inspection windows, if required. The panel area intended for intrinsically safe circuits will be marked e.g. by a specific color (light-blue) or a warning label. Connection will be by means of explosion-proof cable entries. All built-in and add-on components have been tested and certified under a separate test certificate.

3. 인증범위

- 첨부 참조

4. 안전한 사용을 위한 조건

가. 제품 사용 시 사용설명서를 참고할 것.

나. Notes for manufacturing and operation:

The Control and Distribution Panel with a coating of polyester powder must not be used in areas affected by charge-producing processes, mechanical friction and separation processes, electron emission (e.g. in the vicinity of electrostatic coating equipment), and pneumatically conveyed dust. The type of protection can only be provided by following the information and instructions provided by the manufacturer and also the components are properly installed in the enclosure, the enclosures cover or rather the electrical equipment. When installing the components in the electrical equipment, measures shall be taken to ensure that the temperatures at the place of installation remain within the permitted operation temperature range of the components.

다. Determination of the temperature class:

The temperature class T6, T5 or T4 will be defined during the routine test depending on the self heating of the components and the ambient temperature.

5. 인증(변경)사항

- IECEx PTB 06.0090 Issue No. 2 을 바탕으로 작성되었음.

6. 그 밖의 사항

- 안전인증품의 품질관리, 확인심사 수검, 변경사항 신고 등 인증 받은 자의 의무 준수.





[첨부] 16-GA4BO-0859

(1 of 1)

가. Dimensions of the enclosure:

Type	Length [mm]	Width [mm]	Depth [mm]
8146/5073	340.5	170.0	150

나. Technical Data:

Rated voltage ¹⁾	up to 1100 V
Rated current ²⁾	max. 630 A
Rated cross section ³⁾	max. 300 mm ²
Ambient temperature ⁴⁾	T4 : -60 °C ≤ Ta ≤ +70°C T5 : -60 °C ≤ Ta ≤ +55°C T6 : -60 °C ≤ Ta ≤ +40°C
Protection against contact, foreign bodies and water	IP66 acc. to EN 60529

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다. Nomenclature:

8146	/	5	*	*	*	-	*	*
a	/	b	c		d	-	e	

a) Type / Series

b) Design

5 = Control and distribution panel Ex e...

c) Enclosure length x width [mm]:

00 = Combination

03 = 112.5 x 112.5

04 = 170.0 x 112.5

24 = 227.0 x 112.5

05 = 170.0 x 170.0

06 = 227.0 x 170.0

07 = 340.5 x 170.0

B7 = 340.5 x 170.0

S7 = 340.5 x 170.0

08 = 340.5 x 340.5

09 = 681.5 x 340.5

d) Enclosure, height [mm]:

0 = Combination

1 = 91

2 = 131

3 = 150

4 = 171

5 = 190

6 = 230

e) Further information without reference to explosion protection



제16-0860호

안 전 인 증 서

R. STAHL Schaltgeraete

Am bahnhof 30 74638 Waldenburg, GERMANY

위 사업장에서 신청하는 아래의 품목이 「산업안전보건법」 제34조 및 같은 법 시행규칙 제58조의4제4항에 따른 안전인증 심사 결과 안전·보건기준에 적합하므로 안전인증표시의 사용을 인증합니다.

품 목

Control and Distribution Panel

형식 · 모델 / 용량 · 등급 / 인증번호

형식 · 모델	용량 · 등급	인증번호
8146/5075	Max. 1100 V, Max 630 A Ex d e m IIC T6...T4	16-GA4BO-0860

인 증 기 준

방호장치 의무안전인증 고시(고용노동부고시 제2013-54호)

인 증 조 건

뒷면 인증조건 참조

2016 년 12 월 20 일

한국가스안전공사 사장





인 증 조 건

1. 제조공장

- "Am bahnhof 30 74638 Waldenburg, Germany" 에 위치한 R. STAHL Schaltgeraete 에서 제조하는 아래 인증범위의 제품에 한함.

2. 제품개요

- The control and distribution panel, type 8146/5***-*** consist of an glass fiber reinforced enclosure made of polyester of type of protection Increased Safety "e" or Protection by Enclosure "tb" which can be equipped with flanges if necessary. Several boxes can be combined with one another. It is used for the installation of control, regulating and measuring devices as well as terminals for intrinsically safe and non-intrinsically safe circuits and can be equipped with actuators, indicating lamps, and inspection windows, if required. The panel area intended for intrinsically safe circuits will be marked e.g. by a specific color (light-blue) or a warning label. Connection will be by means of explosion-proof cable entries. All built-in and add-on components have been tested and certified under a separate test certificate.

3. 인증범위

- 첨부 참조

4. 안전한 사용을 위한 조건

가. 제품 사용 시 사용설명서를 참고할 것.

나. Notes for manufacturing and operation:

The Control and Distribution Panel with a coating of polyester powder must not be used in areas affected by charge-producing processes, mechanical friction and separation processes, electron emission (e.g. in the vicinity of electrostatic coating equipment), and pneumatically conveyed dust. The type of protection can only be provided by following the information and instructions provided by the manufacturer and also the components are properly installed in the enclosure, the enclosures cover or rather the electrical equipment. When installing the components in the electrical equipment, measures shall be taken to ensure that the temperatures at the place of installation remain within the permitted operation temperature range of the components.

다. Determination of the temperature class:

The temperature class T6, T5 or T4 will be defined during the routine test depending on the self heating of the components and the ambient temperature.

5. 인증(변경)사항

- IECEx PTB 06.0090 Issue No. 2 을 바탕으로 작성되었음.

6. 그 밖의 사항

- 안전인증품의 품질관리, 확인심사 수검, 변경사항 신고 등 인증 받은 자의 의무 준수.





[첨부] 16-GA4BO-0860

(1 of 1)

가. Dimensions of the enclosure:

Type	Length [mm]	Width [mm]	Depth [mm]
8146/5075	340.5	170.0	190

나. Technical Data:

Rated voltage ¹⁾	up to 1100 V
Rated current ²⁾	max. 630 A
Rated cross section ³⁾	max. 300 mm ²
Ambient temperature ⁴⁾	T4 : -60 °C ≤ Ta ≤ +70°C T5 : -60 °C ≤ Ta ≤ +55°C T6 : -60 °C ≤ Ta ≤ +40°C
Protection against contact, foreign bodies and water	IP66 acc. to EN 60529

※ 1), 2), 3) : Depending on the type of terminal and Ex-components used.

※ 4) : The maximum ambient temperature range depends on the maximum ambient temperatures and the power dissipations of the built-in components and of the temperature class rating.

※ The rated values are maximum values; the actual electrical values depend on the electrical equipment incorporated. Within the scope of these maximum permissible values and with due regard to the standards, the manufacturer specifies the final rated values dependent on the system conditions, mode of operation, utilization category, etc. The characteristic values of the intrinsically safe circuits are to be given by the manufacturer on his own responsibility. The maximum permissible ambient temperature range of the terminal housing can be limited by the maximum permissible ambient temperature ranges of the separately certified equipment. The composition of the protection symbol will be based on the types of protection of components actually used.

다. Nomenclature:

8146	/	5	*	*	*	-	*	*
a	/	b	c	d	-	e		

a) Type / Series

b) Design

5 = Control and distribution panel Ex e...

c) Enclosure length x width [mm]:

00 = Combination

03 = 112.5 x 112.5

04 = 170.0 x 112.5

24 = 227.0 x 112.5

05 = 170.0 x 170.0

06 = 227.0 x 170.0

07 = 340.5 x 170.0

B7 = 340.5 x 170.0

S7 = 340.5 x 170.0

08 = 340.5 x 340.5

09 = 681.5 x 340.5

d) Enclosure, height [mm]:

0 = Combination

1 = 91

2 = 131

3 = 150

4 = 171

5 = 190

6 = 230

e) Further information without reference to explosion protection





제16-0861호

안 전 인 증 서

R. STAHL Schaltgeraete

Am bahnhof 30 74638 Waldenburg, GERMANY

위 사업장에서 신청하는 아래의 품목이 「산업안전보건법」 제34조 및 같은 법 시행규칙 제58조의4제4항에 따른 안전인증 심사 결과 안전·보건기준에 적합하므로 안전인증표시의 사용을 인증합니다.

품 목

Control and Distribution Panel

형식 · 모델 / 용량 · 등급 / 인증번호

형식 · 모델	용량 · 등급	인증번호
8146/5S71	Max. 1100 V, Max 630 A	16-GA4BO-0861
	Ex d e m IIC T6...T4	

인 증 기 준

방호장치 의무안전인증 고시(고용노동부고시 제2013-54호)

인 증 조 건

뒷면 인증조건 참조

2016 년 12 월 20 일

한국가스안전공사 사장





인 증 조 건

1. 제조공장

- "Am bahnhof 30 74638 Waldenburg, Germany" 에 위치한 R. STAHL Schaltgeraete 에서 제조하는 아래 인증범위의 제품에 한함.

2. 제품개요

- The control and distribution panel, type 8146/5***-*** consist of an glass fiber reinforced enclosure made of polyester of type of protection Increased Safety "e" or Protection by Enclosure "tb" which can be equipped with flanges if necessary. Several boxes can be combined with one another. It is used for the installation of control, regulating and measuring devices as well as terminals for intrinsically safe and non-intrinsically safe circuits and can be equipped with actuators, indicating lamps, and inspection windows, if required. The panel area intended for intrinsically safe circuits will be marked e.g. by a specific color (light-blue) or a warning label. Connection will be by means of explosion-proof cable entries. All built-in and add-on components have been tested and certified under a separate test certificate.

3. 인증범위

- 첨부 참조

4. 안전한 사용을 위한 조건

가. 제품 사용 시 사용설명서를 참고할 것.

나. Notes for manufacturing and operation:

The Control and Distribution Panel with a coating of polyester powder must not be used in areas affected by charge-producing processes, mechanical friction and separation processes, electron emission (e.g. in the vicinity of electrostatic coating equipment), and pneumatically conveyed dust. The type of protection can only be provided by following the information and instructions provided by the manufacturer and also the components are properly installed in the enclosure, the enclosures cover or rather the electrical equipment. When installing the components in the electrical equipment, measures shall be taken to ensure that the temperatures at the place of installation remain within the permitted operation temperature range of the components.

다. Determination of the temperature class:

The temperature class T6, T5 or T4 will be defined during the routine test depending on the self heating of the components and the ambient temperature.

5. 인증(변경)사항

- IECEx PTB 06.0090 Issue No. 2 을 바탕으로 작성되었음.

6. 그 밖의 사항

- 안전인증품의 품질관리, 확인심사 수검, 변경사항 신고 등 인증 받은 자의 의무 준수.





[첨부] 16-GA4BO-0861

(1 of 1)

가. Dimensions of the enclosure:

Type	Length [mm]	Width [mm]	Depth [mm]
8146/5S71	340.5	170.0	91

나. Technical Data:

Rated voltage ¹⁾	up to 1100 V
Rated current ²⁾	max. 630 A
Rated cross section ³⁾	max. 300 mm ²
Ambient temperature ⁴⁾	T4 : -60 °C ≤ Ta ≤ +70°C T5 : -60 °C ≤ Ta ≤ +55°C T6 : -60 °C ≤ Ta ≤ +40°C
Protection against contact, foreign bodies and water	IP66 acc. to EN 60529

※ 1), 2), 3) : Depending on the type of terminal and Ex-components used.

※ 4) : The maximum ambient temperature range depends on the maximum ambient temperatures and the power dissipations of the built-in components and of the temperature class rating.

※ The rated values are maximum values; the actual electrical values depend on the electrical equipment incorporated. Within the scope of these maximum permissible values and with due regard to the standards, the manufacturer specifies the final rated values dependent on the system conditions, mode of operation, utilization category, etc. The characteristic values of the intrinsically safe circuits are to be given by the manufacturer on his own responsibility. The maximum permissible ambient temperature range of the terminal housing can be limited by the maximum permissible ambient temperature ranges of the separately certified equipment. The composition of the protection symbol will be based on the types of protection of components actually used.

다. Nomenclature:

8146	/	5	*	*	*	-	*	*
a	/	b	c	d	-	e		

a) Type / Series

b) Design

5 = Control and distribution panel Ex e...

c) Enclosure length x width [mm]:

00 = Combination
03 = 112.5 x 112.5
04 = 170.0 x 112.5
24 = 227.0 x 112.5
05 = 170.0 x 170.0
06 = 227.0 x 170.0
07 = 340.5 x 170.0
B7 = 340.5 x 170.0
S7 = 340.5 x 170.0
08 = 340.5 x 340.5
09 = 681.5 x 340.5

d) Enclosure, height [mm]:

0 = Combination
1 = 91
2 = 131
3 = 150
4 = 171
5 = 190
6 = 230

e) Further information without reference to explosion protection



제16-0862호

안 전 인 증 서

R. STAHL Schaltgeraete

Am bahnhof 30 74638 Waldenburg, GERMANY

위 사업장에서 신청하는 아래의 품목이 「산업안전보건법」 제34조 및 같은 법 시행규칙 제58조의4제4항에 따른 안전인증 심사 결과 안전·보건기준에 적합하므로 안전인증표시의 사용을 인증합니다.

품 목

Control and Distribution Panel

형식 · 모델 / 용량 · 등급 / 인증번호

형식 · 모델	용량 · 등급	인증번호
8146/5S73	Max. 1100 V, Max 630 A	16-GA4BO-0862
	Ex d e m IIC T6...T4	

인 증 기 준

방호장치 의무안전인증 고시(고용노동부고시 제2013-54호)

인 증 조 건

뒷면 인증조건 참조

2016 년 12 월 20 일

한국가스안전공사 사장





인 증 조 건

1. 제조공장

- "Am bahnhof 30 74638 Waldenburg, Germany" 에 위치한 R. STAHL Schaltgeraete 에서 제조하는 아래 인증범위의 제품에 한함.

2. 제품개요

- The control and distribution panel, type 8146/5***-*** consist of an glass fiber reinforced enclosure made of polyester of type of protection Increased Safety "e" or Protection by Enclosure "tb" which can be equipped with flanges if necessary. Several boxes can be combined with one another. It is used for the installation of control, regulating and measuring devices as well as terminals for intrinsically safe and non-intrinsically safe circuits and can be equipped with actuators, indicating lamps, and inspection windows, if required. The panel area intended for intrinsically safe circuits will be marked e.g. by a specific color (light-blue) or a warning label. Connection will be by means of explosion-proof cable entries. All built-in and add-on components have been tested and certified under a separate test certificate.

3. 인증범위

- 첨부 참조

4. 안전한 사용을 위한 조건

가. 제품 사용 시 사용설명서를 참고할 것.

나. Notes for manufacturing and operation:

The Control and Distribution Panel with a coating of polyester powder must not be used in areas affected by charge-producing processes, mechanical friction and separation processes, electron emission (e.g. in the vicinity of electrostatic coating equipment), and pneumatically conveyed dust. The type of protection can only be provided by following the information and instructions provided by the manufacturer and also the components are properly installed in the enclosure, the enclosures cover or rather the electrical equipment. When installing the components in the electrical equipment, measures shall be taken to ensure that the temperatures at the place of installation remain within the permitted operation temperature range of the components.

다. Determination of the temperature class:

The temperature class T6, T5 or T4 will be defined during the routine test depending on the self heating of the components and the ambient temperature.

5. 인증(변경)사항

- IECEx PTB 06.0090 Issue No. 2 을 바탕으로 작성되었음.

6. 그 밖의 사항

- 안전인증품의 품질관리, 확인심사 수검, 변경사항 신고 등 인증 받은 자의 의무 준수.





[첨부] 16-GA4BO-0862

(1 of 1)

가. Dimensions of the enclosure:

Type	Length [mm]	Width [mm]	Depth [mm]
8146/5S73	340.5	170.0	150

나. Technical Data:

Rated voltage ¹⁾	up to 1100 V
Rated current ²⁾	max. 630 A
Rated cross section ³⁾	max. 300 mm ²
Ambient temperature ⁴⁾	T4 : -60 °C ≤ Ta ≤ +70°C T5 : -60 °C ≤ Ta ≤ +55°C T6 : -60 °C ≤ Ta ≤ +40°C
Protection against contact, foreign bodies and water	IP66 acc. to EN 60529

※ 1), 2), 3) : Depending on the type of terminal and Ex-components used.

※ 4) : The maximum ambient temperature range depends on the maximum ambient temperatures and the power dissipations of the built-in components and of the temperature class rating.

※ The rated values are maximum values; the actual electrical values depend on the electrical equipment incorporated. Within the scope of these maximum permissible values and with due regard to the standards, the manufacturer specifies the final rated values dependent on the system conditions, mode of operation, utilization category, etc. The characteristic values of the intrinsically safe circuits are to be given by the manufacturer on his own responsibility. The maximum permissible ambient temperature range of the terminal housing can be limited by the maximum permissible ambient temperature ranges of the separately certified equipment. The composition of the protection symbol will be based on the types of protection of components actually used.

다. Nomenclature:

8146	/	5	*	*	*	-	*	*
a	/	b	c	d	-	e		

a) Type / Series

b) Design

5 = Control and distribution panel Ex e...

c) Enclosure length x width [mm]:

- 00 = Combination
- 03 = 112.5 x 112.5
- 04 = 170.0 x 112.5
- 24 = 227.0 x 112.5
- 05 = 170.0 x 170.0
- 06 = 227.0 x 170.0
- 07 = 340.5 x 170.0
- B7 = 340.5 x 170.0
- S7 = 340.5 x 170.0
- 08 = 340.5 x 340.5
- 09 = 681.5 x 340.5

d) Enclosure, height [mm]:

- 0 = Combination
- 1 = 91
- 2 = 131
- 3 = 150
- 4 = 171
- 5 = 190
- 6 = 230

e) Further information without reference to explosion protection





제16-0863호

안 전 인 증 서

R. STAHL Schaltgeraete

Am bahnhof 30 74638 Waldenburg, GERMANY

위 사업장에서 신청하는 아래의 품목이 「산업안전보건법」 제34조 및 같은 법 시행규칙 제58조의4제4항에 따른 안전인증 심사 결과 안전·보건기준에 적합하므로 안전인증표시의 사용을 인증합니다.

품 목

Control and Distribution Panel

형식 · 모델 / 용량 · 등급 / 인증번호

형식 · 모델	용량 · 등급	인증번호
8146/5B73	Max. 1100 V, Max 630 A Ex d e m IIC T6...T4	16-GA4BO-0863

인 증 기 준

방호장치 의무안전인증 고시(고용노동부고시 제2013-54호)

인 증 조 건

뒷면 인증조건 참조

2016 년 12 월 20 일

한국가스안전공사 사장





인 증 조 건

1. 제조공장

- "Am bahnhof 30 74638 Waldenburg, Germany" 에 위치한 R. STAHL Schaltgeraete 에서 제조하는 아래 인증범위의 제품에 한함.

2. 제품개요

- The control and distribution panel, type 8146/5***--** consist of an glass fiber reinforced enclosure made of polyester of type of protection Increased Safety "e" or Protection by Enclosure "tb" which can be equipped with flanges if necessary. Several boxes can be combined with one another. It is used for the installation of control, regulating and measuring devices as well as terminals for intrinsically safe and non-intrinsically safe circuits and can be equipped with actuators, indicating lamps, and inspection windows, if required. The panel area intended for intrinsically safe circuits will be marked e.g. by a specific color (light-blue) or a warning label. Connection will be by means of explosion-proof cable entries. All built-in and add-on components have been tested and certified under a separate test certificate.

3. 인증범위

- 첨부 참조

4. 안전한 사용을 위한 조건

가. 제품 사용 시 사용설명서를 참고할 것.

나. Notes for manufacturing and operation:

The Control and Distribution Panel with a coating of polyester powder must not be used in areas affected by charge-producing processes, mechanical friction and separation processes, electron emission (e.g. in the vicinity of electrostatic coating equipment), and pneumatically conveyed dust. The type of protection can only be provided by following the information and instructions provided by the manufacturer and also the components are properly installed in the enclosure, the enclosures cover or rather the electrical equipment. When installing the components in the electrical equipment, measures shall be taken to ensure that the temperatures at the place of installation remain within the permitted operation temperature range of the components.

다. Determination of the temperature class:

The temperature class T6, T5 or T4 will be defined during the routine test depending on the self heating of the components and the ambient temperature.

5. 인증(변경)사항

- IECEx PTB 06.0090 Issue No. 2 을 바탕으로 작성되었음.

6. 그 밖의 사항

- 안전인증품의 품질관리, 확인심사 수검, 변경사항 신고 등 인증 받은 자의 의무 준수.





[첨부] 16-GA4BO-0863

(1 of 1)

가. Dimensions of the enclosure:

Type	Length [mm]	Width [mm]	Depth [mm]
8146/5B73	340.5	170.0	150

나. Technical Data:

Rated voltage ¹⁾	up to 1100 V
Rated current ²⁾	max. 630 A
Rated cross section ³⁾	max. 300 mm ²
Ambient temperature ⁴⁾	T4 : -60 °C ≤ Ta ≤ +70°C T5 : -60 °C ≤ Ta ≤ +55°C T6 : -60 °C ≤ Ta ≤ +40°C
Protection against contact, foreign bodies and water	IP66 acc. to EN 60529

※ 1), 2), 3) : Depending on the type of terminal and Ex-components used.

※ 4) : The maximum ambient temperature range depends on the maximum ambient temperatures and the power dissipations of the built-in components and of the temperature class rating.

※ The rated values are maximum values; the actual electrical values depend on the electrical equipment incorporated. Within the scope of these maximum permissible values and with due regard to the standards, the manufacturer specifies the final rated values dependent on the system conditions, mode of operation, utilization category, etc. The characteristic values of the intrinsically safe circuits are to be given by the manufacturer on his own responsibility. The maximum permissible ambient temperature range of the terminal housing can be limited by the maximum permissible ambient temperature ranges of the separately certified equipment. The composition of the protection symbol will be based on the types of protection of components actually used.

다. Nomenclature:

8146	/	5	*	*	*	-	*	*
a	/	b	c	d	-	e		

a) Type / Series

b) Design

5 = Control and distribution panel Ex e...

c) Enclosure length x width [mm]:

00 = Combination

03 = 112.5 x 112.5

04 = 170.0 x 112.5

24 = 227.0 x 112.5

05 = 170.0 x 170.0

06 = 227.0 x 170.0

07 = 340.5 x 170.0

B7 = 340.5 x 170.0

S7 = 340.5 x 170.0

08 = 340.5 x 340.5

09 = 681.5 x 340.5

d) Enclosure, height [mm]:

0 = Combination

1 = 91

2 = 131

3 = 150

4 = 171

5 = 190

6 = 230

e) Further information without reference to explosion protection



제16-0864호

안 전 인 증 서

R. STAHL Schaltgeraete

Am bahnhof 30 74638 Waldenburg, GERMANY

위 사업장에서 신청하는 아래의 품목이 「산업안전보건법」 제34조 및 같은 법 시행규칙 제58조의4제4항에 따른 안전인증 심사 결과 안전·보건기준에 적합하므로 안전인증표시의 사용을 인증합니다.

————— 품 목 —————

Control and Distribution Panel

————— 형식 · 모델 / 용량 · 등급 / 인증번호 —————

형식 · 모델	용량 · 등급	인증번호
8146/5B75	Max. 1100 V, Max 630 A	16-GA4BO-0864
	Ex d e m IIC T6...T4	

————— 인 증 기 준 —————

방호장치 의무안전인증 고시(고용노동부고시 제2013-54호)

————— 인 증 조 건 —————

뒷면 인증조건 참조

2016 년 12 월 20 일

한국가스안전공사 사장





인 증 조 건

1. 제조공장

- "Am bahnhof 30 74638 Waldenburg, Germany" 에 위치한 R. STAHL Schaltgeraete 에서 제조하는 아래 인증범위의 제품에 한함.

2. 제품개요

- The control and distribution panel, type 8146/5***--** consist of an glass fiber reinforced enclosure made of polyester of type of protection Increased Safety "e" or Protection by Enclosure "tb" which can be equipped with flanges if necessary. Several boxes can be combined with one another. It is used for the installation of control, regulating and measuring devices as well as terminals for intrinsically safe and non-intrinsically safe circuits and can be equipped with actuators, indicating lamps, and inspection windows, if required. The panel area intended for intrinsically safe circuits will be marked e.g. by a specific color (light-blue) or a warning label. Connection will be by means of explosion-proof cable entries. All built-in and add-on components have been tested and certified under a separate test certificate.

3. 인증범위

- 첨부 참조

4. 안전한 사용을 위한 조건

가. 제품 사용 시 사용설명서를 참고할 것.

나. Notes for manufacturing and operation:

The Control and Distribution Panel with a coating of polyester powder must not be used in areas affected by charge-producing processes, mechanical friction and separation processes, electron emission (e.g. in the vicinity of electrostatic coating equipment), and pneumatically conveyed dust. The type of protection can only be provided by following the information and instructions provided by the manufacturer and also the components are properly installed in the enclosure, the enclosures cover or rather the electrical equipment. When installing the components in the electrical equipment, measures shall be taken to ensure that the temperatures at the place of installation remain within the permitted operation temperature range of the components.

다. Determination of the temperature class:

The temperature class T6, T5 or T4 will be defined during the routine test depending on the self heating of the components and the ambient temperature.

5. 인증(변경)사항

- IECEx PTB 06.0090 Issue No. 2 을 바탕으로 작성되었음.

6. 그 밖의 사항

- 안전인증품의 품질관리, 확인심사 수검, 변경사항 신고 등 인증 받은 자의 의무 준수.





[첨부] 16-GA4BO-0864

(1 of 1)

가. Dimensions of the enclosure:

Type	Length [mm]	Width [mm]	Depth [mm]
8146/5B75	340.5	170.0	190

나. Technical Data:

Rated voltage ¹⁾	up to 1100 V
Rated current ²⁾	max. 630 A
Rated cross section ³⁾	max. 300 mm ²
Ambient temperature ⁴⁾	T4 : -60 °C ≤ Ta ≤ +70°C T5 : -60 °C ≤ Ta ≤ +55°C T6 : -60 °C ≤ Ta ≤ +40°C
Protection against contact, foreign bodies and water	IP66 acc. to EN 60529

※ 1), 2), 3) : Depending on the type of terminal and Ex-components used.

※ 4) : The maximum ambient temperature range depends on the maximum ambient temperatures and the power dissipations of the built-in components and of the temperature class rating.

※ The rated values are maximum values; the actual electrical values depend on the electrical equipment incorporated. Within the scope of these maximum permissible values and with due regard to the standards, the manufacturer specifies the final rated values dependent on the system conditions, mode of operation, utilization category, etc. The characteristic values of the intrinsically safe circuits are to be given by the manufacturer on his own responsibility. The maximum permissible ambient temperature range of the terminal housing can be limited by the maximum permissible ambient temperature ranges of the separately certified equipment. The composition of the protection symbol will be based on the types of protection of components actually used.

다. Nomenclature:

8146	/	5	*	*	*	-	*	*
a	/	b	c	d	-	e		

a) Type / Series

b) Design

5 = Control and distribution panel Ex e...

c) Enclosure length x width [mm]:

00 = Combination
03 = 112.5 x 112.5
04 = 170.0 x 112.5
24 = 227.0 x 112.5
05 = 170.0 x 170.0
06 = 227.0 x 170.0
07 = 340.5 x 170.0
B7 = 340.5 x 170.0
S7 = 340.5 x 170.0
08 = 340.5 x 340.5
09 = 681.5 x 340.5

d) Enclosure, height [mm]:

0 = Combination
1 = 91
2 = 131
3 = 150
4 = 171
5 = 190
6 = 230

e) Further information without reference to explosion protection



제16-0865호

안 전 인 증 서

R. STAHL Schaltgeraete

Am bahnhof 30 74638 Waldenburg, GERMANY

위 사업장에서 신청하는 아래의 품목이 「산업안전보건법」 제34조 및 같은 법 시행규칙 제58조의4제4항에 따른 안전인증 심사 결과 안전·보건기준에 적합하므로 안전인증표시의 사용을 인증합니다.

품 목

Control and Distribution Panel

형식 · 모델 / 용량 · 등급 / 인증번호

형식 · 모델	용량 · 등급	인증번호
8146/5081	Max. 1100 V, Max 630 A	16-GA4BO-0865
	Ex d e m IIC T6...T4	

인 증 기 준

방호장치 의무안전인증 고시(고용노동부고시 제2013-54호)

인 증 조 건

뒷면 인증조건 참조

2016 년 12 월 20 일

한국가스안전공사 사장





인 증 조 건

1. 제조공장

- "Am bahnhof 30 74638 Waldenburg, Germany" 에 위치한 R. STAHL Schaltgeraete 에서 제조하는 아래 인증범위의 제품에 한함.

2. 제품개요

- The control and distribution panel, type 8146/5***-*** consist of an glass fiber reinforced enclosure made of polyester of type of protection Increased Safety "e" or Protection by Enclosure "tb" which can be equipped with flanges if necessary. Several boxes can be combined with one another. It is used for the installation of control, regulating and measuring devices as well as terminals for intrinsically safe and non-intrinsically safe circuits and can be equipped with actuators, indicating lamps, and inspection windows, if required. The panel area intended for intrinsically safe circuits will be marked e.g. by a specific color (light-blue) or a warning label. Connection will be by means of explosion-proof cable entries. All built-in and add-on components have been tested and certified under a separate test certificate.

3. 인증범위

- 첨부 참조

4. 안전한 사용을 위한 조건

가. 제품 사용 시 사용설명서를 참고할 것.

나. Notes for manufacturing and operation:

The Control and Distribution Panel with a coating of polyester powder must not be used in areas affected by charge-producing processes, mechanical friction and separation processes, electron emission (e.g. in the vicinity of electrostatic coating equipment), and pneumatically conveyed dust. The type of protection can only be provided by following the information and instructions provided by the manufacturer and also the components are properly installed in the enclosure, the enclosures cover or rather the electrical equipment. When installing the components in the electrical equipment, measures shall be taken to ensure that the temperatures at the place of installation remain within the permitted operation temperature range of the components.

다. Determination of the temperature class:

The temperature class T6, T5 or T4 will be defined during the routine test depending on the self heating of the components and the ambient temperature.

5. 인증(변경)사항

- IECEx PTB 06.0090 Issue No. 2 을 바탕으로 작성되었음.

6. 그 밖의 사항

- 안전인증품의 품질관리, 확인심사 수검, 변경사항 신고 등 인증 받은 자의 의무 준수.





[첨부] 16-GA4BO-0865

(1 of 1)

가. Dimensions of the enclosure:

Type	Length [mm]	Width [mm]	Depth [mm]
8146/5081	340.5	340.5	91

나. Technical Data:

Rated voltage ¹⁾	up to 1100 V
Rated current ²⁾	max. 630 A
Rated cross section ³⁾	max. 300 mm ²
Ambient temperature ⁴⁾	T4 : -60 °C ≤ Ta ≤ +70°C T5 : -60 °C ≤ Ta ≤ +55°C T6 : -60 °C ≤ Ta ≤ +40°C
Protection against contact, foreign bodies and water	IP66 acc. to EN 60529

※ 1), 2), 3) : Depending on the type of terminal and Ex-components used.

※ 4) : The maximum ambient temperature range depends on the maximum ambient temperatures and the power dissipations of the built-in components and of the temperature class rating.

※ The rated values are maximum values; the actual electrical values depend on the electrical equipment incorporated. Within the scope of these maximum permissible values and with due regard to the standards, the manufacturer specifies the final rated values dependent on the system conditions, mode of operation, utilization category, etc. The characteristic values of the intrinsically safe circuits are to be given by the manufacturer on his own responsibility. The maximum permissible ambient temperature range of the terminal housing can be limited by the maximum permissible ambient temperature ranges of the separately certified equipment. The composition of the protection symbol will be based on the types of protection of components actually used.

다. Nomenclature:

8146	/	5	*	*	*	-	*	*
a	/	b	c	d	-	e		

a) Type / Series

b) Design

5 = Control and distribution panel Ex e...

c) Enclosure length x width [mm]:

00 = Combination

03 = 112.5 x 112.5

04 = 170.0 x 112.5

24 = 227.0 x 112.5

05 = 170.0 x 170.0

06 = 227.0 x 170.0

07 = 340.5 x 170.0

B7 = 340.5 x 170.0

S7 = 340.5 x 170.0

08 = 340.5 x 340.5

09 = 681.5 x 340.5

d) Enclosure, height [mm]:

0 = Combination

1 = 91

2 = 131

3 = 150

4 = 171

5 = 190

6 = 230

e) Further information without reference to explosion protection



제16-0866호

안 전 인 증 서

R. STAHL Schaltgeraete

Am bahnhof 30 74638 Waldenburg, GERMANY

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품 목

Control and Distribution Panel

형식 · 모델 / 용량 · 등급 / 인증번호

형식 · 모델	용량 · 등급	인증번호
8146/5083	Max. 1100 V, Max 630 A	16-GA4BO-0866
	Ex d e m IIC T6...T4	

인 증 기 준

방호장치 의무안전인증 고시(고용노동부고시 제2013-54호)

인 증 조 건

뒷면 인증조건 참조

2016 년 12 월 20 일

한국가스안전공사 사장





인 증 조 건

1. 제조공장

- "Am bahnhof 30 74638 Waldenburg, Germany" 에 위치한 R. STAHL Schaltgeraete 에서 제조하는 아래 인증범위의 제품에 한함.

2. 제품개요

- The control and distribution panel, type 8146/5***-*** consist of an glass fiber reinforced enclosure made of polyester of type of protection Increased Safety "e" or Protection by Enclosure "tb" which can be equipped with flanges if necessary. Several boxes can be combined with one another. It is used for the installation of control, regulating and measuring devices as well as terminals for intrinsically safe and non-intrinsically safe circuits and can be equipped with actuators, indicating lamps, and inspection windows, if required. The panel area intended for intrinsically safe circuits will be marked e.g. by a specific color (light-blue) or a warning label. Connection will be by means of explosion-proof cable entries. All built-in and add-on components have been tested and certified under a separate test certificate.

3. 인증범위

- 첨부 참조

4. 안전한 사용을 위한 조건

가. 제품 사용 시 사용설명서를 참고할 것.

나. Notes for manufacturing and operation:

The Control and Distribution Panel with a coating of polyester powder must not be used in areas affected by charge-producing processes, mechanical friction and separation processes, electron emission (e.g. in the vicinity of electrostatic coating equipment), and pneumatically conveyed dust. The type of protection can only be provided by following the information and instructions provided by the manufacturer and also the components are properly installed in the enclosure, the enclosures cover or rather the electrical equipment. When installing the components in the electrical equipment, measures shall be taken to ensure that the temperatures at the place of installation remain within the permitted operation temperature range of the components.

다. Determination of the temperature class:

The temperature class T6, T5 or T4 will be defined during the routine test depending on the self heating of the components and the ambient temperature.

5. 인증(변경)사항

- IECEx PTB 06.0090 Issue No. 2 을 바탕으로 작성되었음.

6. 그 밖의 사항

- 안전인증품의 품질관리, 확인심사 수검, 변경사항 신고 등 인증 받은 자의 의무 준수.





[첨부] 16-GA4BO-0866

(1 of 1)

가. Dimensions of the enclosure:

Type	Length [mm]	Width [mm]	Depth [mm]
8146/5083	340.5	340.5	150

나. Technical Data:

Rated voltage ¹⁾	up to 1100 V
Rated current ²⁾	max. 630 A
Rated cross section ³⁾	max. 300 mm ²
Ambient temperature ⁴⁾	T4 : -60 °C ≤ Ta ≤ +70°C T5 : -60 °C ≤ Ta ≤ +55°C T6 : -60 °C ≤ Ta ≤ +40°C
Protection against contact, foreign bodies and water	IP66 acc. to EN 60529

※ 1), 2), 3) : Depending on the type of terminal and Ex-components used.

※ 4) : The maximum ambient temperature range depends on the maximum ambient temperatures and the power dissipations of the built-in components and of the temperature class rating.

※ The rated values are maximum values; the actual electrical values depend on the electrical equipment incorporated. Within the scope of these maximum permissible values and with due regard to the standards, the manufacturer specifies the final rated values dependent on the system conditions, mode of operation, utilization category, etc. The characteristic values of the intrinsically safe circuits are to be given by the manufacturer on his own responsibility. The maximum permissible ambient temperature range of the terminal housing can be limited by the maximum permissible ambient temperature ranges of the separately certified equipment. The composition of the protection symbol will be based on the types of protection of components actually used.

다. Nomenclature:

8146	/	5	*	*	*	-	*	*
a	/	b	c	d	-	e		

a) Type / Series

b) Design

5 = Control and distribution panel Ex e...

c) Enclosure length x width [mm]:

00 = Combination

03 = 112.5 x 112.5

04 = 170.0 x 112.5

24 = 227.0 x 112.5

05 = 170.0 x 170.0

06 = 227.0 x 170.0

07 = 340.5 x 170.0

B7 = 340.5 x 170.0

S7 = 340.5 x 170.0

08 = 340.5 x 340.5

09 = 681.5 x 340.5

d) Enclosure, height [mm]:

0 = Combination

1 = 91

2 = 131

3 = 150

4 = 171

5 = 190

6 = 230

e) Further information without reference to explosion protection



제16-0867호

안 전 인 증 서

R. STAHL Schaltgeraete

Am bahnhof 30 74638 Waldenburg, GERMANY

위 사업장에서 신청하는 아래의 품목이 「산업안전보건법」 제34조 및 같은 법 시행규칙 제58조의4제4항에 따른 안전인증 심사 결과 안전·보건기준에 적합하므로 안전인증표시의 사용을 인증합니다.

품 목

Control and Distribution Panel

형식 · 모델 / 용량 · 등급 / 인증번호

형식 · 모델	용량 · 등급	인증번호
8146/5084	Max. 1100 V, Max 630 A	16-GA4BO-0867
	Ex d e m IIC T6...T4	

인 증 기 준

방호장치 의무안전인증 고시(고용노동부고시 제2013-54호)

인 증 조 건

뒷면 인증조건 참조

2016 년 12 월 20 일

한국가스안전공사 사장





인 증 조 건

1. 제조공장

- "Am bahnhof 30 74638 Waldenburg, Germany" 에 위치한 R. STAHL Schaltgeraete 에서 제조하는 아래 인증범위의 제품에 한함.

2. 제품개요

- The control and distribution panel, type 8146/5***-** consist of an glass fiber reinforced enclosure made of polyester of type of protection Increased Safety "e" or Protection by Enclosure "tb" which can be equipped with flanges if necessary. Several boxes can be combined with one another. It is used for the installation of control, regulating and measuring devices as well as terminals for intrinsically safe and non-intrinsically safe circuits and can be equipped with actuators, indicating lamps, and inspection windows, if required. The panel area intended for intrinsically safe circuits will be marked e.g. by a specific color (light-blue) or a warning label. Connection will be by means of explosion-proof cable entries. All built-in and add-on components have been tested and certified under a separate test certificate.

3. 인증범위

- 첨부 참조

4. 안전한 사용을 위한 조건

- 가. 제품 사용 시 사용설명서를 참고할 것.

- 나. Notes for manufacturing and operation:

The Control and Distribution Panel with a coating of polyester powder must not be used in areas affected by charge-producing processes, mechanical friction and separation processes, electron emission (e.g. in the vicinity of electrostatic coating equipment), and pneumatically conveyed dust. The type of protection can only be provided by following the information and instructions provided by the manufacturer and also the components are properly installed in the enclosure, the enclosures cover or rather the electrical equipment. When installing the components in the electrical equipment, measures shall be taken to ensure that the temperatures at the place of installation remain within the permitted operation temperature range of the components.

- 다. Determination of the temperature class:

The temperature class T6, T5 or T4 will be defined during the routine test depending on the self heating of the components and the ambient temperature.

5. 인증(변경)사항

- IECEx PTB 06.0090 Issue No. 2 을 바탕으로 작성되었음.

6. 그 밖의 사항

- 안전인증품의 품질관리, 확인심사 수검, 변경사항 신고 등 인증 받은 자의 의무 준수.





[첨부] 16-GA4BO-0867

(1 of 1)

가. Dimensions of the enclosure:

Type	Length [mm]	Width [mm]	Depth [mm]
8146/5084	340.5	340.5	171

나. Technical Data:

Rated voltage ¹⁾	up to 1100 V
Rated current ²⁾	max. 630 A
Rated cross section ³⁾	max. 300 mm ²
Ambient temperature ⁴⁾	T4 : -60 °C ≤ Ta ≤ +70°C T5 : -60 °C ≤ Ta ≤ +55°C T6 : -60 °C ≤ Ta ≤ +40°C
Protection against contact, foreign bodies and water	IP66 acc. to EN 60529

※ ^{1), 2), 3)} : Depending on the type of terminal and Ex-components used.

※ ⁴⁾ : The maximum ambient temperature range depends on the maximum ambient temperatures and the power dissipations of the built-in components and of the temperature class rating.

※ The rated values are maximum values; the actual electrical values depend on the electrical equipment incorporated. Within the scope of these maximum permissible values and with due regard to the standards, the manufacturer specifies the final rated values dependent on the system conditions, mode of operation, utilization category, etc. The characteristic values of the intrinsically safe circuits are to be given by the manufacturer on his own responsibility. The maximum permissible ambient temperature range of the terminal housing can be limited by the maximum permissible ambient temperature ranges of the separately certified equipment. The composition of the protection symbol will be based on the types of protection of components actually used.

다. Nomenclature:

8146	/	5	*	*	*	-	*	*
a	/	b	c		d	-	e	

a) Type / Series

b) Design

5 = Control and distribution panel Ex e...

c) Enclosure length x width [mm]:

00 = Combination

03 = 112.5 x 112.5

04 = 170.0 x 112.5

24 = 227.0 x 112.5

05 = 170.0 x 170.0

06 = 227.0 x 170.0

07 = 340.5 x 170.0

B7 = 340.5 x 170.0

S7 = 340.5 x 170.0

08 = 340.5 x 340.5

09 = 681.5 x 340.5

d) Enclosure, height [mm]:

0 = Combination

1 = 91

2 = 131

3 = 150

4 = 171

5 = 190

6 = 230

e) Further information without reference to explosion protection



제16-0868호

안 전 인 증 서

R. STAHL Schaltgeraete

Am bahnhof 30 74638 Waldenburg, GERMANY

위 사업장에서 신청하는 아래의 품목이 「산업안전보건법」 제34조 및 같은 법 시행규칙 제58조의4제4항에 따른 안전인증 심사 결과 안전·보건기준에 적합하므로 안전인증표시의 사용을 인증합니다.

품 목

Control and Distribution Panel

형식 · 모델 / 용량 · 등급 / 인증번호

형식 · 모델	용량 · 등급	인증번호
8146/5085	Max. 1100 V, Max 630 A	16-GA4BO-0868
	Ex d e m IIC T6...T4	

인 증 기 준

방호장치 의무안전인증 고시(고용노동부고시 제2013-54호)

인 증 조 건

뒷면 인증조건 참조

2016 년 12 월 20 일

한국가스안전공사 사장





인 증 조 건

1. 제조공장

- "Am bahnhof 30 74638 Waldenburg, Germany" 에 위치한 R. STAHL Schaltgeraete 에서 제조하는 아래 인증범위의 제품에 한함.

2. 제품개요

- The control and distribution panel, type 8146/5***-** consist of an glass fiber reinforced enclosure made of polyester of type of protection Increased Safety "e" or Protection by Enclosure "tb" which can be equipped with flanges if necessary. Several boxes can be combined with one another. It is used for the installation of control, regulating and measuring devices as well as terminals for intrinsically safe and non-intrinsically safe circuits and can be equipped with actuators, indicating lamps, and inspection windows, if required. The panel area intended for intrinsically safe circuits will be marked e.g. by a specific color (light-blue) or a warning label. Connection will be by means of explosion-proof cable entries. All built-in and add-on components have been tested and certified under a separate test certificate.

3. 인증범위

- 첨부 참조

4. 안전한 사용을 위한 조건

가. 제품 사용 시 사용설명서를 참고할 것.

나. Notes for manufacturing and operation:

The Control and Distribution Panel with a coating of polyester powder must not be used in areas affected by charge-producing processes, mechanical friction and separation processes, electron emission (e.g. in the vicinity of electrostatic coating equipment), and pneumatically conveyed dust. The type of protection can only be provided by following the information and instructions provided by the manufacturer and also the components are properly installed in the enclosure, the enclosures cover or rather the electrical equipment. When installing the components in the electrical equipment, measures shall be taken to ensure that the temperatures at the place of installation remain within the permitted operation temperature range of the components.

다. Determination of the temperature class:

The temperature class T6, T5 or T4 will be defined during the routine test depending on the self heating of the components and the ambient temperature.

5. 인증(변경)사항

- IECEx PTB 06.0090 Issue No. 2 을 바탕으로 작성되었음.

6. 그 밖의 사항

- 안전인증품의 품질관리, 확인심사 수검, 변경사항 신고 등 인증 받은 자의 의무 준수.





[첨부] 16-GA4BO-0868

(1 of 1)

가. Dimensions of the enclosure:

Type	Length [mm]	Width [mm]	Depth [mm]
8146/5085	340.5	340.5	190

나. Technical Data:

Rated voltage ¹⁾	up to 1100 V
Rated current ²⁾	max. 630 A
Rated cross section ³⁾	max. 300 mm ²
Ambient temperature ⁴⁾	T4 : -60 °C ≤ Ta ≤ +70°C T5 : -60 °C ≤ Ta ≤ +55°C T6 : -60 °C ≤ Ta ≤ +40°C
Protection against contact, foreign bodies and water	IP66 acc. to EN 60529

※ 1), 2), 3) : Depending on the type of terminal and Ex-components used.

※ 4) : The maximum ambient temperature range depends on the maximum ambient temperatures and the power dissipations of the built-in components and of the temperature class rating.

※ The rated values are maximum values; the actual electrical values depend on the electrical equipment incorporated. Within the scope of these maximum permissible values and with due regard to the standards, the manufacturer specifies the final rated values dependent on the system conditions, mode of operation, utilization category, etc. The characteristic values of the intrinsically safe circuits are to be given by the manufacturer on his own responsibility. The maximum permissible ambient temperature range of the terminal housing can be limited by the maximum permissible ambient temperature ranges of the separately certified equipment. The composition of the protection symbol will be based on the types of protection of components actually used.

다. Nomenclature:

8146	/	5	*	*	*	-	*	*
a	/	b	c	d	-	e		

a) Type / Series

b) Design

5 = Control and distribution panel Ex e...

c) Enclosure length x width [mm]:

00 = Combination

03 = 112.5 x 112.5

04 = 170.0 x 112.5

24 = 227.0 x 112.5

05 = 170.0 x 170.0

06 = 227.0 x 170.0

07 = 340.5 x 170.0

B7 = 340.5 x 170.0

S7 = 340.5 x 170.0

08 = 340.5 x 340.5

09 = 681.5 x 340.5

d) Enclosure, height [mm]:

0 = Combination

1 = 91

2 = 131

3 = 150

4 = 171

5 = 190

6 = 230

e) Further information without reference to explosion protection



제16-0869호

안 전 인 증 서

R. STAHL Schaltgeraete

Am bahnhof 30 74638 Waldenburg, GERMANY

위 사업장에서 신청하는 아래의 품목이 「산업안전보건법」 제34조 및 같은 법 시행규칙 제58조의4제4항에 따른 안전인증 심사 결과 안전·보건기준에 적합하므로 안전인증표시의 사용을 인증합니다.

품 목

Control and Distribution Panel

형식 · 모델 / 용량 · 등급 / 인증번호

형식 · 모델	용량 · 등급	인증번호
8146/5086	Max. 1100 V, Max 630 A	16-GA4BO-0869
	Ex d e m IIC T6...T4	

인 증 기 준

방호장치 의무안전인증 고시(고용노동부고시 제2013-54호)

인 증 조 건

뒷면 인증조건 참조

2016 년 12 월 20 일

한국가스안전공사 사장





인 증 조 건

1. 제조공장

- "Am bahnhof 30 74638 Waldenburg, Germany" 에 위치한 R. STAHL Schaltgeraete 에서 제조하는 아래 인증범위의 제품에 한함.

2. 제품개요

- The control and distribution panel, type 8146/5***-** consist of an glass fiber reinforced enclosure made of polyester of type of protection Increased Safety "e" or Protection by Enclosure "tb" which can be equipped with flanges if necessary. Several boxes can be combined with one another. It is used for the installation of control, regulating and measuring devices as well as terminals for intrinsically safe and non-intrinsically safe circuits and can be equipped with actuators, indicating lamps, and inspection windows, if required. The panel area intended for intrinsically safe circuits will be marked e.g. by a specific color (light-blue) or a warning label. Connection will be by means of explosion-proof cable entries. All built-in and add-on components have been tested and certified under a separate test certificate.

3. 인증범위

- 첨부 참조

4. 안전한 사용을 위한 조건

가. 제품 사용 시 사용설명서를 참고할 것.

나. Notes for manufacturing and operation:

The Control and Distribution Panel with a coating of polyester powder must not be used in areas affected by charge-producing processes, mechanical friction and separation processes, electron emission (e.g. in the vicinity of electrostatic coating equipment), and pneumatically conveyed dust. The type of protection can only be provided by following the information and instructions provided by the manufacturer and also the components are properly installed in the enclosure, the enclosures cover or rather the electrical equipment. When installing the components in the electrical equipment, measures shall be taken to ensure that the temperatures at the place of installation remain within the permitted operation temperature range of the components.

다. Determination of the temperature class:

The temperature class T6, T5 or T4 will be defined during the routine test depending on the self heating of the components and the ambient temperature.

5. 인증(변경)사항

- IECEx PTB 06.0090 Issue No. 2 을 바탕으로 작성되었음.

6. 그 밖의 사항

- 안전인증품의 품질관리, 확인심사 수검, 변경사항 신고 등 인증 받은 자의 의무 준수.





[첨부] 16-GA4BO-0869

(1 of 1)

가. Dimensions of the enclosure:

Type	Length [mm]	Width [mm]	Depth [mm]
8146/5086	340.5	340.5	230

나. Technical Data:

Rated voltage ¹⁾	up to 1100 V
Rated current ²⁾	max. 630 A
Rated cross section ³⁾	max. 300 mm ²
Ambient temperature ⁴⁾	T4 : -60 °C ≤ Ta ≤ +70°C T5 : -60 °C ≤ Ta ≤ +55°C T6 : -60 °C ≤ Ta ≤ +40°C
Protection against contact, foreign bodies and water	IP66 acc. to EN 60529

※ 1), 2), 3) : Depending on the type of terminal and Ex-components used.

※ 4) : The maximum ambient temperature range depends on the maximum ambient temperatures and the power dissipations of the built-in components and of the temperature class rating.

※ The rated values are maximum values; the actual electrical values depend on the electrical equipment incorporated. Within the scope of these maximum permissible values and with due regard to the standards, the manufacturer specifies the final rated values dependent on the system conditions, mode of operation, utilization category, etc. The characteristic values of the intrinsically safe circuits are to be given by the manufacturer on his own responsibility. The maximum permissible ambient temperature range of the terminal housing can be limited by the maximum permissible ambient temperature ranges of the separately certified equipment. The composition of the protection symbol will be based on the types of protection of components actually used.

다. Nomenclature:

8146	/	5	*	*	*	-	*	*
a	/	b	c		d	-	e	

a) Type / Series

b) Design

5 = Control and distribution panel Ex e...

c) Enclosure length x width [mm]:

00 = Combination

03 = 112.5 x 112.5

04 = 170.0 x 112.5

24 = 227.0 x 112.5

05 = 170.0 x 170.0

06 = 227.0 x 170.0

07 = 340.5 x 170.0

B7 = 340.5 x 170.0

S7 = 340.5 x 170.0

08 = 340.5 x 340.5

09 = 681.5 x 340.5

d) Enclosure, height [mm]:

0 = Combination

1 = 91

2 = 131

3 = 150

4 = 171

5 = 190

6 = 230

e) Further information without reference to explosion protection



제16-0870호

안 전 인 증 서

R. STAHL Schaltgeraete

Am bahnhof 30 74638 Waldenburg, GERMANY

위 사업장에서 신청하는 아래의 품목이 「산업안전보건법」 제34조 및 같은 법 시행규칙 제58조의4제4항에 따른 안전인증 심사 결과 안전·보건기준에 적합하므로 안전인증표시의 사용을 인증합니다.

품 목

Control and Distribution Panel

형식 · 모델 / 용량 · 등급 / 인증번호

형식 · 모델	용량 · 등급	인증번호
8146/5091	Max. 1100 V, Max 630 A	16-GA4BO-0870
	Ex d e m IIC T6...T4	

인 증 기 준

방호장치 의무안전인증 고시(고용노동부고시 제2013-54호)

인 증 조 건

뒷면 인증조건 참조

2016 년 12 월 20 일

한국가스안전공사 사장





인 증 조 건

1. 제조공장

- "Am bahnhof 30 74638 Waldenburg, Germany" 에 위치한 R. STAHL Schaltgeraete 에서 제조하는 아래 인증범위의 제품에 한함.

2. 제품개요

- The control and distribution panel, type 8146/5***-** consist of an glass fiber reinforced enclosure made of polyester of type of protection Increased Safety "e" or Protection by Enclosure "tb" which can be equipped with flanges if necessary. Several boxes can be combined with one another. It is used for the installation of control, regulating and measuring devices as well as terminals for intrinsically safe and non-intrinsically safe circuits and can be equipped with actuators, indicating lamps, and inspection windows, if required. The panel area intended for intrinsically safe circuits will be marked e.g. by a specific color (light-blue) or a warning label. Connection will be by means of explosion-proof cable entries. All built-in and add-on components have been tested and certified under a separate test certificate.

3. 인증범위

- 첨부 참조

4. 안전한 사용을 위한 조건

가. 제품 사용 시 사용설명서를 참고할 것.

나. Notes for manufacturing and operation:

The Control and Distribution Panel with a coating of polyester powder must not be used in areas affected by charge-producing processes, mechanical friction and separation processes, electron emission (e.g. in the vicinity of electrostatic coating equipment), and pneumatically conveyed dust. The type of protection can only be provided by following the information and instructions provided by the manufacturer and also the components are properly installed in the enclosure, the enclosures cover or rather the electrical equipment. When installing the components in the electrical equipment, measures shall be taken to ensure that the temperatures at the place of installation remain within the permitted operation temperature range of the components.

다. Determination of the temperature class:

The temperature class T6, T5 or T4 will be defined during the routine test depending on the self heating of the components and the ambient temperature.

5. 인증(변경)사항

- IECEx PTB 06.0090 Issue No. 2 을 바탕으로 작성되었음.

6. 그 밖의 사항

- 안전인증품의 품질관리, 확인심사 수검, 변경사항 신고 등 인증 받은 자의 의무 준수.





[첨부] 16-GA4BO-0870

(1 of 1)

가. Dimensions of the enclosure:

Type	Length [mm]	Width [mm]	Depth [mm]
8146/5091	681.5	340.5	91

나. Technical Data:

Rated voltage ¹⁾	up to 1100 V
Rated current ²⁾	max. 630 A
Rated cross section ³⁾	max. 300 mm ²
Ambient temperature ⁴⁾	T4 : -60 °C ≤ Ta ≤ +70°C T5 : -60 °C ≤ Ta ≤ +55°C T6 : -60 °C ≤ Ta ≤ +40°C
Protection against contact, foreign bodies and water	IP66 acc. to EN 60529

※ 1), 2), 3) : Depending on the type of terminal and Ex-components used.

※ 4) : The maximum ambient temperature range depends on the maximum ambient temperatures and the power dissipations of the built-in components and of the temperature class rating.

※ The rated values are maximum values; the actual electrical values depend on the electrical equipment incorporated. Within the scope of these maximum permissible values and with due regard to the standards, the manufacturer specifies the final rated values dependent on the system conditions, mode of operation, utilization category, etc. The characteristic values of the intrinsically safe circuits are to be given by the manufacturer on his own responsibility. The maximum permissible ambient temperature range of the terminal housing can be limited by the maximum permissible ambient temperature ranges of the separately certified equipment. The composition of the protection symbol will be based on the types of protection of components actually used.

다. Nomenclature:

8146	/	5	*	*	*	-	*	*
a	/	b	c		d	-	e	

a) Type / Series

b) Design

5 = Control and distribution panel Ex e...

c) Enclosure length x width [mm]:

00 = Combination

03 = 112.5 x 112.5

04 = 170.0 x 112.5

24 = 227.0 x 112.5

05 = 170.0 x 170.0

06 = 227.0 x 170.0

07 = 340.5 x 170.0

B7 = 340.5 x 170.0

S7 = 340.5 x 170.0

08 = 340.5 x 340.5

09 = 681.5 x 340.5

d) Enclosure, height [mm]:

0 = Combination

1 = 91

2 = 131

3 = 150

4 = 171

5 = 190

6 = 230

e) Further information without reference to explosion protection



제16-0871호

안 전 인 증 서

R. STAHL Schaltgeraete

Am bahnhof 30 74638 Waldenburg, GERMANY

위 사업장에서 신청하는 아래의 품목이 「산업안전보건법」 제34조 및 같은 법 시행규칙 제58조의4제4항에 따른 안전인증 심사 결과 안전·보건기준에 적합하므로 안전인증표시의 사용을 인증합니다.

품 목

Control and Distribution Panel

형식 · 모델 / 용량 · 등급 / 인증번호

형식 · 모델	용량 · 등급	인증번호
8146/5093	Max. 1100 V, Max 630 A	16-GA4BO-0871
	Ex d e m IIC T6...T4	

인 증 기 준

방호장치 의무안전인증 고시(고용노동부고시 제2013-54호)

인 증 조 건

뒷면 인증조건 참조

2016 년 12 월 20 일

한국가스안전공사 사장





인 증 조 건

1. 제조공장

- "Am bahnhof 30 74638 Waldenburg, Germany" 에 위치한 R. STAHL Schaltgeraete 에서 제조하는 아래 인증범위의 제품에 한함.

2. 제품개요

- The control and distribution panel, type 8146/5***-** consist of an glass fiber reinforced enclosure made of polyester of type of protection Increased Safety "e" or Protection by Enclosure "tb" which can be equipped with flanges if necessary. Several boxes can be combined with one another. It is used for the installation of control, regulating and measuring devices as well as terminals for intrinsically safe and non-intrinsically safe circuits and can be equipped with actuators, indicating lamps, and inspection windows, if required. The panel area intended for intrinsically safe circuits will be marked e.g. by a specific color (light-blue) or a warning label. Connection will be by means of explosion-proof cable entries. All built-in and add-on components have been tested and certified under a separate test certificate.

3. 인증범위

- 첨부 참조

4. 안전한 사용을 위한 조건

가. 제품 사용 시 사용설명서를 참고할 것.

나. Notes for manufacturing and operation:

The Control and Distribution Panel with a coating of polyester powder must not be used in areas affected by charge-producing processes, mechanical friction and separation processes, electron emission (e.g. in the vicinity of electrostatic coating equipment), and pneumatically conveyed dust. The type of protection can only be provided by following the information and instructions provided by the manufacturer and also the components are properly installed in the enclosure, the enclosures cover or rather the electrical equipment. When installing the components in the electrical equipment, measures shall be taken to ensure that the temperatures at the place of installation remain within the permitted operation temperature range of the components.

다. Determination of the temperature class:

The temperature class T6, T5 or T4 will be defined during the routine test depending on the self heating of the components and the ambient temperature.

5. 인증(변경)사항

- IECEx PTB 06.0090 Issue No. 2 을 바탕으로 작성되었음.

6. 그 밖의 사항

- 안전인증품의 품질관리, 확인심사 수검, 변경사항 신고 등 인증 받은 자의 의무 준수.





[첨부] 16-GA4BO-0871

(1 of 1)

가. Dimensions of the enclosure:

Type	Length [mm]	Width [mm]	Depth [mm]
8146/5093	681.5	340.5	150

나. Technical Data:

Rated voltage ¹⁾	up to 1100 V
Rated current ²⁾	max. 630 A
Rated cross section ³⁾	max. 300 mm ²
Ambient temperature ⁴⁾	T4 : -60 °C ≤ Ta ≤ +70°C T5 : -60 °C ≤ Ta ≤ +55°C T6 : -60 °C ≤ Ta ≤ +40°C
Protection against contact, foreign bodies and water	IP66 acc. to EN 60529

※ 1), 2), 3) : Depending on the type of terminal and Ex-components used.

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다. Nomenclature:

8146	/	5	*	*	*	-	*	*
a	/	b	c		d	-	e	

a) Type / Series

b) Design

5 = Control and distribution panel Ex e...

c) Enclosure length x width [mm]:

00 = Combination

03 = 112.5 x 112.5

04 = 170.0 x 112.5

24 = 227.0 x 112.5

05 = 170.0 x 170.0

06 = 227.0 x 170.0

07 = 340.5 x 170.0

B7 = 340.5 x 170.0

S7 = 340.5 x 170.0

08 = 340.5 x 340.5

09 = 681.5 x 340.5

d) Enclosure, height [mm]:

0 = Combination

1 = 91

2 = 131

3 = 150

4 = 171

5 = 190

6 = 230

e) Further information without reference to explosion protection



제16-0872호

안 전 인 증 서

R. STAHL Schaltgeraete

Am bahnhof 30 74638 Waldenburg, GERMANY

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품 목

Control and Distribution Panel

형식 · 모델 / 용량 · 등급 / 인증번호

형식 · 모델	용량 · 등급	인증번호
8146/5095	Max. 1100 V, Max 630 A	16-GA4BO-0872
	Ex d e m IIC T6...T4	

인 증 기 준

방호장치 의무안전인증 고시(고용노동부고시 제2013-54호)

인 증 조 건

뒷면 인증조건 참조

2016 년 12 월 20 일

한국가스안전공사 사장





인 증 조 건

1. 제조공장

- "Am bahnhof 30 74638 Waldenburg, Germany" 에 위치한 R. STAHL Schaltgeraete 에서 제조하는 아래 인증범위의 제품에 한함.

2. 제품개요

- The control and distribution panel, type 8146/5***-** consist of an glass fiber reinforced enclosure made of polyester of type of protection Increased Safety "e" or Protection by Enclosure "tb" which can be equipped with flanges if necessary. Several boxes can be combined with one another. It is used for the installation of control, regulating and measuring devices as well as terminals for intrinsically safe and non-intrinsically safe circuits and can be equipped with actuators, indicating lamps, and inspection windows, if required. The panel area intended for intrinsically safe circuits will be marked e.g. by a specific color (light-blue) or a warning label. Connection will be by means of explosion-proof cable entries. All built-in and add-on components have been tested and certified under a separate test certificate.

3. 인증범위

- 첨부 참조

4. 안전한 사용을 위한 조건

가. 제품 사용 시 사용설명서를 참고할 것.

나. Notes for manufacturing and operation:

The Control and Distribution Panel with a coating of polyester powder must not be used in areas affected by charge-producing processes, mechanical friction and separation processes, electron emission (e.g. in the vicinity of electrostatic coating equipment), and pneumatically conveyed dust. The type of protection can only be provided by following the information and instructions provided by the manufacturer and also the components are properly installed in the enclosure, the enclosures cover or rather the electrical equipment. When installing the components in the electrical equipment, measures shall be taken to ensure that the temperatures at the place of installation remain within the permitted operation temperature range of the components.

다. Determination of the temperature class:

The temperature class T6, T5 or T4 will be defined during the routine test depending on the self heating of the components and the ambient temperature.

5. 인증(변경)사항

- IECEx PTB 06.0090 Issue No. 2 을 바탕으로 작성되었음.

6. 그 밖의 사항

- 안전인증품의 품질관리, 확인심사 수검, 변경사항 신고 등 인증 받은 자의 의무 준수.





[첨부] 16-GA4BO-0872

(1 of 1)

가. Dimensions of the enclosure:

Type	Length [mm]	Width [mm]	Depth [mm]
8146/5095	681.5	340.5	190

나. Technical Data:

Rated voltage ¹⁾	up to 1100 V
Rated current ²⁾	max. 630 A
Rated cross section ³⁾	max. 300 mm ²
Ambient temperature ⁴⁾	T4 : -60 °C ≤ Ta ≤ +70°C T5 : -60 °C ≤ Ta ≤ +55°C T6 : -60 °C ≤ Ta ≤ +40°C
Protection against contact, foreign bodies and water	IP66 acc. to EN 60529

※ 1), 2), 3) : Depending on the type of terminal and Ex-components used.

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다. Nomenclature:

8146	/	5	*	*	*	-	*	*
a	/	b	c		d	-	e	

a) Type / Series

b) Design

5 = Control and distribution panel Ex e...

c) Enclosure length x width [mm]:

00 = Combination

03 = 112.5 x 112.5

04 = 170.0 x 112.5

24 = 227.0 x 112.5

05 = 170.0 x 170.0

06 = 227.0 x 170.0

07 = 340.5 x 170.0

B7 = 340.5 x 170.0

S7 = 340.5 x 170.0

08 = 340.5 x 340.5

09 = 681.5 x 340.5

d) Enclosure, height [mm]:

0 = Combination

1 = 91

2 = 131

3 = 150

4 = 171

5 = 190

6 = 230

e) Further information without reference to explosion protection