



財團法人全國認證基金會
Taiwan Accreditation Foundation

Certificate of Accreditation

(Certificate No : L2402-260811)

This is to certify that

Chung-Hsin Electric & Machinery Mfg. Corp.
Chung-Hsin Electric & Machinery Mfg. Corp. Power Equipment Products
Division High Voltage Circuit Breakers and Switchgear Equipment Testing
Laboratory

NO.25, Wende Rd., Guishan Dist., Taoyuan City 333, Taiwan, R.O.C

is accredited in respect of laboratory

Accreditation Criteria : ISO/IEC 17025:2017 ; CNS 17025:2018

Accreditation Number : 2402

Originally Accredited : August 15, 2011

Effective Period : August 15, 2026 to August 14, 2029

Accredited Scope : Testing Field, see described in the Appendix



Scan to verify

Yi-Ling Chen

Yi-Ling Chen
President, Taiwan Accreditation Foundation
August 11, 2026

Accreditation Number : 2402

Laboratory Head : TAI, Yuan-Chung

■ 31. 01 Electrical power equipment

Lightning arrester

E006

- 1.Reference voltage measurement
 - 2.Partial discharge measurement
 - 3.Radio interference voltage (RIV) test
 - 1.IEC 60099-4 (2014)
 - 2.IEEE Std C62.11 (2012)
- 144 kV Max., 10 kA Max.

Approval Signatory: CHIANG, Chia-Hung; CHEN, Chung-Yao; HUANG, Yong-Cen; TAI, Yuan-Chung

■ 31. 03 Electrical power equipment

Inductive voltage transformer (Potential transformer)

E006

- 1.Design and visual checks
 - 2.Induced voltage test (Inter-turn overvoltage test)
 - 3.Power-frequency withstand voltage test (test Voltage 10 kV Max.)
 - 4.Polarity test
 - 5.Accuracy test
 - 6.Partial discharge measurement
 - 7.Radio interference voltage (RIV) test
 - 1.CNS 11437 (2001)
 - 2.IEEE Std C57.13 (2016)
 - 3.IEC 61869-1 (2007)
 - 4.IEC 61869-3 (2011)
- 5.Pressure vessel safety inspection standards of construction of Ministry of Labor Affairs Executive Yuan.
- 6.ASME BPVC VIII division1 UG-99 (2015)
- 1 Ø
- Primary Voltage 161 kV/ $\sqrt{3}$ Max.
- Secondary Voltage 115 V Max.
- Accuracy Class ≥ 0.2 %
- 60 Hz
- 400 VA Max.

Approval Signatory: CHIANG, Chia-Hung; CHEN, Chung-Yao; HUANG, Yong-Cen; TAI, Yuan-Chung

■ 31. 03 Electrical power equipment

Inductive voltage transformers

(Potential transformer)

E006 Pressure tests of enclosures (The second type of pressure vessel water pressure inspection)

- 1.Pressure vessel safety inspection standards of construction of Ministry of Labor Affairs Executive Yuan
 - 2.ASME BPVC VIII division1 UG-99 (2015)
- P2, total 10 pages



3.IEC 61869-1 (2007)

1 Ø/3 Ø

Primary Voltage 161 kV/ $\sqrt{3}$ Max.

Secondary Voltage 115 V Max.

400 VA Max.

Accuracy Class $\geq 0.2\%$, 60 Hz

Approval Signatory: CHEN, Chung-Yao; TSAI, Ming-Hsun; TAI, Yuan-Chung

■ 31. 04 Electrical power equipment

Current transformers

E006

1.Design and visual checks

2.Induced voltage test (Inter-turn overvoltage test)

3.Power-frequency withstand voltage test

4.Polarity test

5.Accuracy test

6.Partial discharge measurement

7.Excitation curves test

8.Temperature-rise test

9.Operation with secondary circuit open test

1.CNS 11437 (2001)

2.IEEE Std C57.13 (2016)

3.IEC 61869-1 (2007)

4.IEC 61869-2 (2012)

Applicable voltage level: 345 kV Max.

Primary Current: 6000 A Max.

Second Current: 1 A, 5 A

Accuracy Class $\geq 0.2\%$

60 Hz

Burden: 200 VA Max. at 5 A

Burden: 50 VA Max. at 1 A

Approval Signatory: CHIANG, Chia-Hung; CHEN, Chung-Yao; HUANG, Yong-Cen; TAI, Yuan-Chung

■ 31. 04 Electrical power equipment

Current transformers

E006 Short-time current tests

1.IEEE Std C57.13 (2016)

2.IEC 61869-1 (2007)

3.IEC 61869-2 (2012)

4.CNS 11437 (2001)

Symmetric

Value 12000 A rms/3 s Max., 60 Hz

Approval Signatory: CHIANG, Chia-Hung; HUANG, Yong-Cen; TAI, Yuan-Chung

■ 31. 06 Electrical power equipment

Gas Insulated Switchgear

E006 Degrees of protection provided by enclosures

1.IEC 60529 (2013)

2.IEEE Std C37.100.1 (2007)

3.IEC 62271-1 (2007, ed1.0)

4.IEC 62271-200 (2003, ed1.0)

5.IEC 62271-1 (2017)

6.IEC 62271-200 (2011, ed2.0)

P3, total 10 pages



IP4X/IP3X

Approval Signatory: CHEN, Po-Jung; TSAI, Ming-Hsun; TAI, Yuan-Chung

■ 31. 06 Electrical power equipment

Gas Insulated Switchgear

E006 Pressure tests of enclosures (The second type of pressure vessel water pressure inspection)

1.IEEE Std C37.09 (2018)

2.IEEE Std C37.122 (2010)

3.IEC 62271-201 (2014)

4.IEC 62271-203 (2003, ed1.0)

5.Pressure vessel safety inspection standards of construction of Ministry of Labor Affairs Executive Yuan

6.ASME BPVC VIII division1 UG-99 (2015)

7.IEC 62271-1 (2007, ed1.0)

8.IEC 62271-200 (2003, ed1.0)

9.IEC 62271-203 (2011, ed2.0)

10.IEC 62271-1 (2017)

11.IEC 62271-200 (2011, ed2.0)

345 kV Max.

63 kA Max.

8000 A Max.

Approval Signatory: KANG, Sheng-Long; CHEN, Chung-Yao; TSAI, Ming-Hsun; TAI, Yuan-Chung

■ 31. 06 Electrical power equipment

Gas Insulated Switchgear (GIS)

E006 Taoyuan Factory Test items:

1.High Voltage Detector test (Threshold values for voltage presence indication)

2.Voltage Detector test (Threshold values for voltage presence indication)

3.Power factor test

4.Impulse test

5.Temperature-rise test (6000 A Max.)

6.Low- and high-pressure interlocking and monitoring device test

7.Moisture in SF₆ test8.SF₆ pure analysis test

9.Radio interference voltage (RIV) test

Taoyuan Factory Test Methods:

1.TECHNICAL SPECIFICATIONS FOR 345 kV GAS INSULATED SWITCHGEAR EQUIPMENT GIS-1

2.TECHNICAL SPECIFICATIONS FOR 161 kV GAS INSULATED SWITCHGEAR EQUIPMENT GIS-2

3.TECHNICAL SPECIFICATIONS FOR 69 kV GAS INSULATED SWITCHGEAR EQUIPMENT GIS-3

4.TECHNICAL SPECIFICATIONS FOR 23 kV GAS INSULATED SWITCHGEAR EQUIPMENT GIS-4

5.IEC 62271-201 (2014)

6.IEC 62271-203 (2011)

7.IEC 62271-1 (2017)

8.IEC 60060-1 (2010)

9.IEEE Std C37.122 (2010)

10.IEC 60480 (2019)

11.IEC 60376 (2018)

12.IEC 62271-206 (2011)

13.IEEE Std 4 (2013)

P4, total 10 pages

The Appendix forms an integral part of this Certificate, which shall be invalid when use without the Appendix



- 14.IEC 62271-200 (2003, ed1.0)
- 15.IEC 62271-203 (2011, ed2.0)
- 16.IEC 62271-200 (2011, ed2.0)
- 17.IEC 62271-1 (2007)

Taoyuan Factory Voltage level:

- 1 Ø/3 Ø
- 345 kV Max.
- 8000 A Max.
- 63 kA Max.
- 60 Hz

Chiayi Factory Voltage level:

- 3 Ø
- 161 kV Max.
- 4000 A Max.
- 50 kA Max.
- 60 Hz

Chiayi Factory Test items:

- 1.High Voltage Detector test (Threshold values for voltage presence indication)
- 2.Power factor test
- 3.Low- and high-pressure interlocking and monitoring device test
- 4.Moisture in SF₆ test
- 5.SF₆ pure analysis test
- 6.Radio interference voltage (RIV) test

Chiayi Factory Test Methods:

- 1.TECHNICAL SPECIFICATIONS FOR 161 kV GAS INSULATED SWITCHGEAR EQUIPMENT GIS-2
- 2.TECHNICAL SPECIFICATIONS FOR 69 kV GAS INSULATED SWITCHGEAR EQUIPMENT GIS-3
- 3.TECHNICAL SPECIFICATIONS FOR 23 kV GAS INSULATED SWITCHGEAR EQUIPMENT GIS-4
- 4.IEC 62271-201 (2014)
- 5.IEC 62271-203 (2011)
- 6.IEC 62271-1 (2017)
- 7.IEC 60060-1 (2010)
- 8.IEEE Std C37.122 (2010)
- 9.IEC 60480 (2019)
- 10.IEC 60376 (2018)
- 11.IEC 62271-206 (2011)
- 12.IEEE Std 4 (2013)
- 13.IEC 62271-200 (2003, ed1.0)
- 14.IEC 62271-203 (2011, ed2.0)
- 15.IEC 62271-200 (2011, ed2.0)
- 16.IEC 62271-1 (2007)

Approval Signatory: CHIANG, Chia-Hung; LIN, Rui-Hsien; KANG, Sheng-Long; CHEN, Chung-Yao; HUANG, Yong-Cen; TAI, Yuan-Chung

Testing Site: 1.NO.25, Wende Rd., Guishan Dist., Taoyuan City 333, Taiwan, R.O.C; 2.No. 22, 1st Road, Machouhou Industrial Area, Lucao Township, Chiayi County 611

E006 Taoyuan/Chiayi Factory Test items:

- 1.Design and visual checks.
- 2.Power-frequency voltage tests on the main circuit
- 3.Tests on auxiliary and control circuits
- 4.Partial discharge measurement
- 5.Mechanical operation tests (Circuit breaker, disconnection switch, earthing switch)
- 6.Timing test
- 7.Measurement of resistance of the main circuit

P5, total 10 pages

The Appendix forms an integral part of this Certificate, which shall be invalid when use without the Appendix



- 8.Tests on auxiliary circuits, equipment and interlocks in the control mechanism
- 9.Insulation resistance test
- 10.Gas tightness tests

Taoyuan Factory Test Methods:

- 1.Pressure vessel safety inspection standards of construction of Ministry of Labor Affairs Executive Yuan.
- 2.ASME BPVC VIII division1 UG-99 (2015)
- 3.TECHNICAL SPECIFICATIONS FOR 345 kV GAS INSULATED SWITCHGEAR EQUIPMENT GIS-1
- 4.TECHNICAL SPECIFICATIONS FOR 161 kV GAS INSULATED SWITCHGEAR EQUIPMENT GIS-2
- 5.TECHNICAL SPECIFICATIONS FOR 69 kV GAS INSULATED SWITCHGEAR EQUIPMENT GIS-3
- 6.TECHNICAL SPECIFICATIONS FOR 23 kV GAS INSULATED SWITCHGEAR EQUIPMENT GIS-4
- 7.IEEE Std C37.09 (2018)
- 8.IEEE Std C37.122 (2010)
- 9.IEC 62271-201 (2014)
- 10.IEC 62271-203 (2003, ed1.0)
- 11.IEC 60060-1 (2010)
- 12.IEC 62271-1 (2007)
- 13.IEC 62271-200 (2003, ed1.0)
- 14.IEC 62271-200 (2011, ed2.0)
- 15.IEC 62271-203 (2011, ed2.0)

Taoyuan Factory Test items:

- 1 Ø/3 Ø
- 345 kV Max.
- 8000 A Max.
- 63 kA Max.
- 60 Hz

Chiayi Factory Voltage level:

- 3 Ø
- 161 kV Max.
- 4000 A Max.
- 50 kA Max.
- 60 Hz

Chiayi Factory Test Methods:

- 1.TECHNICAL SPECIFICATIONS FOR 161 kV GAS INSULATED SWITCHGEAR EQUIPMENT GIS-2
- 2.TECHNICAL SPECIFICATIONS FOR 69 kV GAS INSULATED SWITCHGEAR EQUIPMENT GIS-3
- 3.TECHNICAL SPECIFICATIONS FOR 23 kV GAS INSULATED SWITCHGEAR EQUIPMENT GIS-4
- 4.IEEE Std C37.09 (2018)
- 5.IEEE Std C37.122 (2010)
- 6.IEC 62271-201 (2014)
- 7.IEC 62271-203 (2003, ed1.0)
- 8.IEC 60060-1 (2010)
- 9.IEC 62271-1 (2007)
- 10.IEC 62271-200 (2003, ed1.0)
- 11.IEC 62271-200 (2011, ed2.0)
- 12.IEC 62271-203 (2011, ed2.0)

Approval Signatory: CHIANG, Chia-Hung; LIN, Rui-Hsien; KANG, Sheng-Long; CHEN, Chung-Yao; HUANG, Yong-Cen; TAI, Yuan-Chung

Testing Site: 1.NO.25, Wende Rd., Guishan Dist., Taoyuan City 333, Taiwan, R.O.C; 2.No. 22, 1st Road, Machouhou Industrial Area, Lucao Township, Chiayi County 611



■ 31. 06 Electrical power equipment

Gas Insulated Combined Switchgear

E006

- 1.Power factor test
- 2.Impulse test
- 3.Temperature-rise test (6000A Max.)
- 4.Low- and high-pressure interlocking and monitoring device test
- 5.Moisture in SF₆ test
- 6.SF₆ pure analysis test
- 7.Radio interference voltage (RIV) test

1.TECHNICAL SPECIFICATIONS FOR 161kV GAS INSULATED SWITCHGEAR EQUIPMENT GIS-2

2.TECHNICAL SPECIFICATIONS FOR 345 kV GAS INSULATED COMBINED SWITCHGEAR GCS-1

3.IEC 62271-203 (2003, ed1.0)

4.IEC 62271-1 (2007, ed1.0)

5.IEC 60060-1 (2010)

6.IEEE Std C37.122 (2010)

7.IEC 60480 (2019)

8.IEC 60376 (2018)

9.IEEE Std 4 (2013)

10.IEC 62271-203 (2011, ed2.0)

11.IEC 62271-1 (2017)

1 Ø/3 Ø

345 kV Max.

63 kA Max.

6000 A Max.

60 Hz

Approval Signatory: CHIANG, Chia-Hung; KANG, Sheng-Long; CHEN, Chung-Yao; HUANG, Yong-Cen; TAI, Yuan-Chung

■ 31. 06 Electrical power equipment

Gas Insulated Combined Switchgear (GCS)

E006

- 1.Design and visual checks
- 2.Power-frequency voltage tests on the main circuit
- 3.Tests on auxiliary and control circuits
- 4.Partial discharge measurement
- 5.Mechanical operation tests (Circuit breaker, disconnection switch, earthing switch)
- 6.Timing test
- 7.Measurement of resistance of the main circuit
- 8.Tests on auxiliary circuits, equipment and interlocks in the control mechanism
- 9.Insulation resistance test
- 10.Gas tightness tests
- 1.Pressure vessel safety inspection standards of construction of Ministry of Labor Affairs Executive Yuan
- 2.ASME BPVC VIII division1 UG-99 (2015)
- 3.TECHNICAL SPECIFICATIONS FOR 345 kV GAS INSULATED COMBINED SWITCHGEAR GCS-1
- 4.TECHNICAL SPECIFICATIONS FOR 161 kV GAS INSULATED SWITCHGEAR EQUIPMENT GIS-2
- 5.IEEE Std C37.09 (2018)
- 6.IEEE Std C37.122 (2010)
- 7.IEC 62271-203 (2003, ed1.0)
- 8.IEC 60060-1 (2010)
- 9.IEC 62271-1 (2007, ed1.0)

P7, total 10 pages



10.IEC 62271-203 (2011, ed2.0)
11.IEC 62271-1 (2017)
1 Ø/3 Ø
345 kV Max.
6000 A Max.
63 kA Max.
60 Hz

Approval Signatory: CHIANG, Chia-Hung; LIN, Rui-Hsien; KANG, Sheng-Long; CHEN, Chung-Yao; HUANG, Yong-Cen; TAI, Yuan-Chung

■ 31. 06 Electrical power equipment

Gas Insulated Combined Switchgear

E006 Pressure tests of enclosures (The second type of pressure vessel water pressure inspection)

1.IEEE Std C37.09 (2018)
2.IEEE Std C37.122 (2010)
3.IEC 62271-203 (2003, ed1.0)
4.Pressure vessel safety inspection standards of construction of Ministry of Labor Affairs Executive Yuan
5.ASME BPVC VIII division1 UG-99 (2015)
6.IEC 62271-1 (2007, ed1.0)
7.IEC 62271-203 (2011, ed2.0)
8.IEC 62271-1 (2017)
345 kV Max.
63 kA Max.
6000 A Max.

Approval Signatory: KANG, Sheng-Long; CHEN, Chung-Yao; TSAI, Ming-Hsun; TAI, Yuan-Chung

■ 31. 07 Electrical power equipment

Gas Circuit Breaker

E006 Partial discharge measurement

1.IEC 62271-100 (2003, ed1.1)
2.IEC 62271-1 (2007, ed1.0)
3.IEC 60060-1 (2010)
4.IEC 62271-100 (2017)
5.IEC 62271-1 (2017)
1 Ø/3 Ø
345 kV Max.
63 kA Max.
6000 A Max.
60 Hz

Approval Signatory: CHIANG, Chia-Hung; KANG, Sheng-Long; CHEN, Chung-Yao; HUANG, Yong-Cen; TAI, Yuan-Chung

E006

1.Power factor test
2.Impulse test
3.Temperature-rise test (6000 A Max.)
4.Low- and high-pressure interlocking and monitoring device test
5.Moisture in SF₆ test
6.SF₆ pure analysis test
P8, total 10 pages



7. Radio interference voltage (RIV) test

1. TECHNICAL SPECIFICATIONS FOR 161kV POWER CIRCUIT BREAKERS
NO.BK02

2. TECHNICAL SPECIFICATIONS FOR 69kV POWER CIRCUIT BREAKERS
NO.BK03

3. SPECIFICATIONS FOR 345 kV GAS CIRCUIT BREAKERS EQUIPMENTS
NO.EHV-GIS-1

4. IEC 62271-1 (2007, ed1.0)

5. IEC 62271-100 (2003, ed1.1)

6. IEC 60060-1 (2010)

7. IEEE Std C37.09 (2018)

8. IEC 60480 (2019)

9. IEC 60376 (2018)

10. IEEE Std 4 (2013)

11. IEC 62271-1 (2017)

12. IEC 62271-100 (2017)

1 Ø/3 Ø

345 kV Max. (AC)

63 kA Max.

6000 A Max.

60 Hz

Approval Signatory: CHIANG, Chia-Hung; LIN, Rui-Hsien; KANG, Sheng-Long; CHEN, Chung-Yao; HUANG, Yong-Cen; TAI, Yuan-Chung

E006

1. Design and visual checks

2. Power-frequency voltage tests on the main circuit

3. Tests on auxiliary and control circuits

4. Mechanical operation tests

5. Measurement of resistance of the main circuit

6. Tests on auxiliary circuits, equipment and interlocks in the control mechanism

7. Insulation resistance test

8. Gas tightness tests

1. Pressure vessel safety inspection standards of construction of Council of Labor Affairs Executive Yuan.

2. ASME BPVC VIII division1 UG-99 (2015)

3. TECHNICAL SPECIFICATIONS FOR 69 kV POWER CIRCUIT BREAKERS
NO.BK03

4. TECHNICAL SPECIFICATIONS FOR 161 kV POWER CIRCUIT BREAKERS
NO.BK02

5. SPECIFICATIONS FOR 345 kV GAS CIRCUIT BREAKERS EQUIPMENTS
NO.EHV-GIS-1

6. IEEE Std C37.09 (2018)

7. IEC 62271-100 (2003, ed1.1)

8. IEC 60060-1 (2010)

9. IEC 62271-1 (2007, ed1.0)

10. IEC 62271-1 (2017)

11. IEC 62271-100 (2017)

1 Ø/3 Ø

345 kV Max. (AC)

6000 A Max.

63 kA Max.

60 Hz

Approval Signatory: CHIANG, Chia-Hung; KANG, Sheng-Long; CHEN, Chung-Yao; HUANG, Yong-Cen; TAI, Yuan-Chung

P9, total 10 pages

The Appendix forms an integral part of this Certificate, which shall be invalid when use without the Appendix



E006 Pressure tests of enclosures (The second type of pressure vessel water pressure inspection)

- 1.IEEE Std C37.09 (2018)
 - 2.IEC 62271-100 (2003, ed1.1)
 - 3.Pressure vessel safety inspection standards of construction of Ministry of Labor Affairs Executive Yuan
 - 4.ASME BPVC VIII division1 UG-99 (2015)
 - 5.IEC 62271-1 (2007, ed1.0)
 - 6.IEC 62271-100 (2017)
 - 7.IEC 62271-1 (2017)
- 345 kV Max.
63 kA Max.
6000 A Max.

Approval Signatory: KANG, Sheng-Long; CHEN, Chung-Yao; TSAI, Ming-Hsun; TAI, Yuan-Chung

▼ 31. 99 Electrical power equipment

Load Break Switch

E007 Short-time current tests

Taiwan Power Company Material standards Y210

Symmetric Value 12000 A rms/1 s Max.

Approval Signatory: HUANG, Yong-Cen; TAI, Yuan-Chung

▼ 31. 99 Electrical power equipment

Electrical equipment with enclosures or box

E007 Degrees of protection provided by enclosures

- 1.IEC 60529 (2013)
 - 2.IEEE Std C37.100.1 (2007)
- IP4X/IP3X/IPX5

Approval Signatory: CHEN, Po-Jung; TSAI, Ming-Hsun; TAI, Yuan-Chung

E007 Pressure tests of enclosures (The second type of pressure vessel water pressure inspection)

- 1.IEEE Std C37.09 (2018)
 - 2.IEEE Std C37.122 (2010)
 - 3.IEC 62271-203 (2003, ed1.0)
 - 4.IEC 62271-201 (2014)
 - 5.IEC 61869-1 (2007)
 - 6.Pressure vessel safety inspection standards of construction of Ministry of Labor Affairs Executive Yuan
 - 7.ASME BPVC VIII division1 UG-99 (2015)
 - 8.IEC 62271-200 (2003, ed1.0)
 - 9.IEC 62271-203 (2011, ed2.0)
 - 10.IEC 62271-200 (2011, ed2.0)
- Min.: 0.5 kgf/cm²·G (0.05 MPa)
Max.: 50 kgf/cm²·G (5.0 MPa)

Approval Signatory: KANG, Sheng-Long; CHEN, Chung-Yao; TSAI, Ming-Hsun; TAI, Yuan-Chung

(Null below)

P10, total 10 pages

The Appendix forms an integral part of this Certificate, which shall be invalid when use without the Appendix

