

ASTA CERTIFICATE

IEC 60439

Withdrawable MCC

Certifications & Accreditations

Certificate No 14570

ASTA CERTIFICATION SERVICES

(Incorporated in the year 1938)

ASTA House, Chestnut Field, Rugby, CV21 2TL, England

Laboratory Ref. No. 101130AC

CERTIFICATE OF TYPE TESTS

APPARATUS: Three-phase vertical busbars and four outgoing motor starter units of a 415 V/690 V (Ue/Ui), 50 Hz switchgear and controlgear assembly

DESIGNATION: Withdrawable MCC T1

MANUFACTURER: Powerwell Sdn Bhd
No. 34 & 36 Jalan TPP 1/19, Taman Industri Puchong
Batu 12, Jalan Puchong 47100, Puchong Selangor Malaysia

TESTED BY: Testing & Certification Australia
18 Mars Road, Lane Cove 2066 Australia

DATE(S) OF TESTS: 13 to 27 May 2000

The apparatus, constructed in accordance with the description, drawings and photographs incorporated in this certificate has been subjected to the series of proving tests in accordance with

IEC Publication 60439-1 : 1999, BS EN 60439-1 : 1999 and AS 3439.1-1993
Clauses 8.2.1, 8.2.2, 8.2.3, 8.2.4, 8.2.5, 8.2.6 to 8.2.7.

The results are shown in the record of Proving Tests and the oscillograms attached hereto. The values obtained and the general performance are considered to comply with the above Standard(s) and to justify the ratings assigned by the manufacturer as stated below.

For ratings assigned by the manufacturer and proved by the tests see page 1.

The record of Proving Tests applies only to the apparatus tested. The responsibility for conformity of any apparatus having the same designations with that tested rests with the Manufacturer.

This Certificate comprises 29 pages, 2 diagrams, 8 oscillograms, 30 photographs, 9 drawings and no other sheets, as detailed on page 2.

Only integral reproduction of this Certificate, or reproductions of this page accompanied by any page(s) on which are stated the assigned rated characteristics of the apparatus tested, are permitted without written permission from ASTA Certification Services, ASTA House, Chestnut Field, Rugby, CV21 2TL England. (see overleaf)



Registration Number
010

The use of the Accreditation Mark indicates accreditation in respect of those activities covered by the accreditation certificate number 010.

M. A. Carstedt M. A. Carstedt
ASTA Observer

C. Nick-Evans
ENGINEERING MANAGER

12TH February 2001 Date

Record Of Proving Tests

ASTA

Laboratory Reference No: 101130

Certificate No. 14570

RATINGS ASSIGNED BY THE MANUFACTURER AND PROVED BY THE TESTS

Temperature-rise limits (Clause 8.2.1)

Rated current of the assembly : 640 A
Rated current of the vertical busbars : 600 A
Rated current of outgoing motor starter units : 6.6 A, 11 A, 15 A, 26 A
Rated diversity factor of the outgoing motor starter units : 1

Dielectric properties (Clause 8.2.2)

Rated insulation voltage of the main circuits : 690 V
Rated impulse withstand voltage of the vertical busbars : 6 kV
Rated impulse withstand voltage of the outgoing units : 4 kV

Short-circuit withstand strength (Clause 8.2.3)

Rated conditional short-circuit current (Clause 8.2.3.2.3 a)
6.6 A (3 kW), 11 A (5.5 kW), 15 A (7.5 kW) and : 50 kA at 415 V, pf = 0.25
26 A (15 kW) outgoing motor starter units

Rated peak and short-time withstand current (Clauses 8.2.3.2.3 b)

Vertical phase busbars : 50 kA rms for 1 s, 105 kA peak
(1 - 65 mm x 6 mm Copper bars)

Effectiveness of the protective circuit (Clause 8.2.4)

Effective connection between exposed conductive parts : Verified
and the protective circuit (Clause 8.2.4.1)
Rated fused short-circuit current (Clause 8.2.4.2)
(1 - 50 mm x 10 mm Copper bar) : 30 kA at 240 V, pf = 0.25

Clearance and creepage distances (Clause 8.2.5)

Creepage : Verified
Clearance : Verified

Mechanical operation (Clause 8.2.6)

Outgoing motor starter units and interlocks : Verified

Degree of protection (Clause 8.2.7)

Clauses 12, 13 and 14 of IEC Publication 60529 : 1989 : IP 41

13 to 27 May 2000
Dates of Tests

M. A. Carstedt

M. A. Carstedt
ASTA Observer