



TABULA

The Absolute Switchboard System for Maximum Safety and Reliability

TABULA - a Qualified Partner with a Strong Switchboard Concept, World-wide

TABULA meets all requirements within low voltage switchboards:



- Main- and distribution boards
- Motor Control Centres
- Operation- and Control Switchboards

Fulfils in the best way all national and international standards, incl. approvals from international bureaus of shipping classifications, and is adaptable to almost any local demand and tradition.

TABULA covers the full Range of Low Voltage Switchboards



Main Distribution Board
Montparnasse Business Centre, France

TABULA covers the full Range of Low Voltage Switchboards



Motor Control Centre, Draw-out
Power Station, Skærbækværket, Denmark

TABULA covers the full Range of Low Voltage Switchboards



Distributions Boards
Pharmaceutical Industry, Denmark

Operation- and Control Board
Water Purifying Plant, Norway

Strong Data - without Compromises

Fully documented low voltage switchboard system,
according to IEC/EN 60439-1 and 3



- Rated insulation voltage: 1000V
- Rated current
 - Horizontal main busbars
In = 250-7800A
 - Vertical distributions busbars
In = 225-1600A
- Short Circuit Ratings
 - Horizontal main busbars up to
Icw 120kA/1s., Ipk 264 kA peak
 - Vertical distribution busbars up
to Icw 100kA/1s., Ipk 220 kA peak
- Degree of protection IP20-IP54
- Forms of separation, form 1-4 a
as standard
- Fixed, plug-in and draw-out execution

Type-tested - Point by Point

A natural element in the philosophy behind TABULA

IEC:1000 - 109 -

types of electrical connections of functional units
 connections of functional units within ASSEMBLIES or parts of ASSEMBLIES
 letter code:
 the type of electrical connection of the main incoming circuit;
 notes the type of electrical connection of the main outgoing circuit;
 notes the type of electrical connection of the auxiliary circuits.
 shall be used:
 (see 2.2.12.1);
 (see 2.2.12.2);
 (see 2.2.12.3).

Characteristics of an ASSEMBLY include:
 (and 8.2)
 (8.1.2 and 8.3).

The manufacturer shall, on request, specify the basis for the verifications.
 NOTE Verifications and tests to be performed on TTA and PTTA are listed in table 7.

8.1.1 Type tests (see 8.2)
 Type tests are intended to verify compliance with the requirements laid down in this standard for a given type of ASSEMBLY.
 Type tests will be carried out on a sample of such an ASSEMBLY or on ASSEMBLIES manufactured to the same or a similar design.
 They shall be carried out on the initiative of the manufacturer.
 Type tests include the following:
 a) verification of temperature-rise limits (8.2.1);
 b) verification of the dielectric properties (8.2.2);
 c) verification of the short-circuit withstand strength (8.2.3);
 d) verification of the effectiveness of the protective circuit (8.2.4);
 e) verification of clearances and creepage distances (8.2.5);
 f) verification of mechanical operation (8.2.6);
 g) verification of the degree of protection (8.2.7).
 These tests may be carried out in any order and/or on different samples.
 If modifications are made to the components of the ASSEMBLY, new tests shall be carried out only in so far as such modifications are likely to adversely affect the results of these tests.

DET NORSKE VERITAS
 TYPE APPROVAL CERTIFICATE

Certificate No. E-4119
 This Certificate consists of 1 page
 This is to certify that the
 Power Switch Board with Bus Bar
 with type designation(s)
 TABULA (Horizontal busbar system R250-R7000), (Vertical busbar system C25-C1600), (Horizontal busbar system 1800-11400, 111400-112500)
 Manufactured by
 Holec A/S
 Vejle, Denmark
 is found to comply with
 the following standard: IEC 60439-1 and IEC 60439-3

The Type Approval regards System Design Principle. Application subject to individual approval.

Type	Rated voltage (V)	Rated current (A)	Rated freq. (Hz)
TABULA (Horizontal busbar system R250-R7000)	450	250-4500	50/60
TABULA (Vertical busbar system C25-C1600)	450	250-1600	50/60
TABULA (Horizontal busbar system 1800-11400, 111400-112500)	450	800-2700	50/60

Place and date
 Oslo, 19 January 1999
 As Head of Office
 Øystein B. Kildem
 Head of Office

This Certificate is valid until
 31 December 2009
 Per Mortensen
 Supervisor

DET NORSKE VERITAS AS
 Sandnessveien 14, N-1380 Sandnessjøen, Norway
 Tel: +47 75 90 20 00 Fax: +47 75 90 20 01
 1999 No. 22 200 Issue: January 99 Page 1 of 1

- Type-test includes both IEC/ EN 60439-1 as well as 60439-3 (switchboards operated by layman)
- Carried through in international test laboratories, KEMA, ASTA and others
- Type test certificate from DNV
- The extensive documentation is available for the panel builders

The Realized Idea

Fully modulated with a DIN-standardized basic module of 126mm
(DIN-norm 125mm +/- 1mm)



- Optimum dimensions for any switchboard solution
- Is adaptable to any demands regarding switchboard location in the building
- Optimised utilisation of enclosure space
- Ensures easy and standardized extension possibilities

Build-In

Type-tested standard solutions



- ACB's
- MCCB's
- Fuse- and load break switches
- Draw-out
- Plug-in
- DIN-rail assemblies

Can be combined in the same switchboard / column

Cable Compartments

Separate cable compartments of any width and any position for optimum cabling



Draw-out

Draw-out, an integrated part of TABULA



- Easy access during service
- Fast exchange of draw-out cassettes
- Service and repair can be executed with live busbars
- Reduces the time of stop in production
- Suitable for preventive maintenance

TABULA Guarantees Strong and Competitive Solutions



Many years of experience



Own test laboratory - certified by KEMA and Lovag

Wide network of panel builders
- 150 in more than 30 countries



International relations ensures a current research and development

Programs for product- and assembly training



Comprehensive documentation



Why TABULA ?

Safety and functionality above all



- Fully type-tested and documented
- ISO 9001 : 2000
- Environmental declaration
- A competent and international organisation is behind
- High level of experience
- A system for the complete project
- Optimum extension possibilities
- Easy to service, designed for modern principles regarding maintenance
- Economically attractive

References

Strong TABULA solutions through a national and international network of dynamic and well-reputed panel builder companies

- | | | |
|--|--|---|
|  Shell Buenos Aires |  Philips Eindhoven |  Petronas |
|  Convention Centre |  Ritz Carlton Hotel |  Oman Min. of Def. |
|  Milchhof Salzburg |  Geothermal Power Plant |  Ericsson |
|  Salmannya Medical Centre |  Tallaght Hospital Dulin |  Dubai Aluminium |
|  Stib Metro, Bruxelles |  FS Italy (Railways) |  Coca Cola |
|  Petrobrass |  Emires Headquarters Building | |
|  Cement Works, (FLS Industries) |  Solid Energy | |
|  Copenhagen Airport Kastrup |  Norsk Hydro | |
|  British Telecommunication |  Rybnik Power Station | |
|  New Buildings No. 32 & 32, |  Lisabon Airport | |
|  Slaughterhouse, Huittnen |  Coca Cola Minsk | |
|  CEA, Nuclear Plant |  Fraser & Neave Aircon | |
|  Television Tower, Berlin |  Vojany Power Station | |
|  Fishing Industry, Aasiat |  Mercedes-Benz | |

TABULA

- the perfect choice

