

## PRODUCT-DETAILS

# OTDC400UFSV02

## OTDC400UFSV02 PV Disconnect Switch



### General Information

|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Extended Product Type | OTDC400UFSV02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Product ID            | 1SCA158358R1001                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| EAN                   | 6417019874593                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Catalog Description   | OTDC400UFSV02 PV Disconnect Switch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Long Description      | <p>A fully optimized two-pole DC switch-disconnector for 1500V utility-scale photovoltaic power plants covering 315-630A current range. The new design offers both a size reduction and an increase in efficiency and performance to help manufacturers adapt to the industry's rapid adoption of 1500V DC solutions.</p> <p>The two-pole 1500V DC concept helps manufacturers improve system efficiency, reducing switch losses by up to 35 percent. The OTDC range of 1500V DC switches is also up to 30 percent smaller than conventional solutions. The compact size of the new OTDC range makes it possible for manufacturers to reduce the size of combiner boxes and inverters.</p> <p>Main characteristics for this particular OTDC type:<br/>Disconnect single PV circuit, Approved according to UL98B and IEC 60947-1,-3, Factory fitted connection bar kits</p> |

### Ordering

|                        |                          |
|------------------------|--------------------------|
| Minimum Order Quantity | 1 piece                  |
| Customs Tariff Number  | 85353010                 |
| Last Ordering Date     | 2021-05-31 All Countries |
| Country of Origin      | Finland (FI)             |

### Popular Downloads

|                       |                 |
|-----------------------|-----------------|
| Data Sheet, Technical | 1SCC301022C0201 |
|-----------------------|-----------------|

## Information

|                          |                                                                                      |
|--------------------------|--------------------------------------------------------------------------------------|
| Instructions and Manuals | 1SCC301099M0201<br>9AKK107492A6191                                                   |
| Mechanical Drawings      | OTDC250-400UFSV02_stp<br>OTDC250-400UFSV02_igs<br>1SCC307672F0001<br>1SCC307673F0001 |
| Wiring Diagram           | 1SCC301026K0201                                                                      |

## Dimensions

|                            |                    |
|----------------------------|--------------------|
| Product Frame Size         | M                  |
| Product Net Width          | 180 mm<br>7.1 in   |
| Product Net Height         | 220.5 mm<br>8.7 in |
| Product Net Depth / Length | 135 mm<br>5.3 in   |
| Product Net Weight         | 3.8 kg<br>8.4 lb   |

## Technical

|                                                    |                                                      |
|----------------------------------------------------|------------------------------------------------------|
| Connection Configuration                           | Single circuit 1a                                    |
| Rated Operational Current DC-21B ( $I_e$ )         | (1500 V) 500 A                                       |
| Rated Operational Current DC-22B                   | (1500 V) 400 A                                       |
| Rated Operational Current DC-PV1                   | (1500 V) 500 A                                       |
| Rated Operational Current DC-PV2                   | (1500 V) 400 A                                       |
| Conventional Free-air Thermal Current ( $I_{th}$ ) | 500 A                                                |
| Conventional Thermal Current ( $I_{the}$ )         | Fully Enclosed 500 A                                 |
| Rated Impulse Withstand Voltage ( $U_{imp}$ )      | 12 kV                                                |
| Rated Insulation Voltage ( $U_i$ )                 | 1500 V                                               |
| Rated Operational Voltage                          | 1500 V                                               |
| Rated Short-Circuit Making Capacity ( $I_{cm}$ )   | (1500 V DC) 10 kA                                    |
| Rated Short-time Withstand Current ( $I_{cw}$ )    | (1500 V DC) 10 kA<br>for 1 s 10 kA                   |
| Protection Type                                    | Circuit breaker                                      |
| Power Loss                                         | at Rated Operating Conditions per Pole 20 W          |
| Pollution Degree                                   | 3                                                    |
| Handle Type                                        | Handle and shaft not included                        |
| Shaft Diameter                                     | 12 mm<br>0.47 in                                     |
| Switches Operating Mechanism                       | Mechanism at the End of the Switch<br>02 (Left Side) |
| Position of Line Terminals                         | Bottom In - Bottom Out                               |
| Operating Mode                                     | Front Operated                                       |
| Standards                                          | UL98B and IEC 60947-1, -3                            |
| Special Functions                                  | US single-wire break                                 |
| Mounting Type                                      | Base mounting                                        |
| Number of Circuits                                 | 1                                                    |

|                       |                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Number of Poles       | 2                                                                                                                                                                                                                                                                                                                                                                                          |
| Degree of Protection  | Front IP20                                                                                                                                                                                                                                                                                                                                                                                 |
| Terminal Type         | Lug terminals                                                                                                                                                                                                                                                                                                                                                                              |
| Terminal Width        | 30 mm<br>1.2 in                                                                                                                                                                                                                                                                                                                                                                            |
| Tightening Torque     | Cable Lug 30...40 N·m                                                                                                                                                                                                                                                                                                                                                                      |
| Mechanical Durability | 10000 cycle                                                                                                                                                                                                                                                                                                                                                                                |
| Utilization           | Photovoltaic                                                                                                                                                                                                                                                                                                                                                                               |
| Utilization Category  | Switching of resistive loads, including moderate overloads - occasional actuation (DC-21B)<br>Switching of mixed resistive and inductive loads, including moderate overloads (i.e. shunt motors) - occasional actuation (DC-22B)<br>Switching of single PV string(s) without reverse and overcurrents (DC-PV1)<br>Switching of several PV string(s) with reverse and overcurrents (DC-PV2) |

## Technical UL/CSA

|                                  |                                                     |
|----------------------------------|-----------------------------------------------------|
| Maximum Operating Voltage UL/CSA | 1500 V DC                                           |
| Ampere Rating UL/CSA             | 1500VDC 400 A                                       |
| Tightening Torque UL/CSA         | Cable Lug 30...44 N·m<br>Cable Lug 266...390 lbf·in |

## Environmental

|             |                                   |
|-------------|-----------------------------------|
| RoHS Status | Following EU Directive 2011/65/EU |
|-------------|-----------------------------------|

## Certificates and Declarations (Document Number)

|                                |                                    |
|--------------------------------|------------------------------------|
| CCC Certificate                | CQC2019010302206498                |
| Declaration of Conformity - CE | 1SCC301227D2701                    |
| DNV GL Certificate             | 1SCC301231D0201                    |
| Instructions and Manuals       | 1SCC301099M0201<br>9AKK107492A6191 |
| RoHS Information               | 1SCC301227D2701                    |
| UL Certificate                 | UL certificate OTDC250-1000UF      |

## Container Information

|                                |                  |
|--------------------------------|------------------|
| Package Level 1 Units          | box 1 piece      |
| Package Level 1 Width          | 220 mm<br>8.7 in |
| Package Level 1 Depth / Length | 250 mm<br>9.8 in |
| Package Level 1 Height         | 210 mm<br>8.3 in |
| Package Level 1 Gross Weight   | 4.1 kg<br>9 lb   |
| Package Level 1 EAN            | 6417019874593    |

## Classifications

|                            |                                |
|----------------------------|--------------------------------|
| Object Classification Code | Q                              |
| ETIM 5                     | EC000216 - Switch disconnecter |
| ETIM 6                     | EC000216 - Switch disconnecter |

|               |                                                            |
|---------------|------------------------------------------------------------|
| ETIM 7        | EC000216 - Switch disconnect                               |
| UNSPSC        | 39122233                                                   |
| WEEE Category | 5. Small Equipment (No External Dimension More Than 50 cm) |

Categories

Low Voltage Products and Systems → Industries → Solar power → 1500V DC  
Low Voltage Products and Systems → Switches → DC Switch-Disconnectors

