

# ABE7R16S111

sub-base - soldered electromechanical relays ABE7 - 16 channels - relay 5 mm



## Main

|                                |   |
|--------------------------------|---|
| Range of product               | Advantys Telefast ABE7                  |
| Product or component type      | Electromechanical output relay sub-base |
| [Us] rated supply voltage      | 24 V DC (PLC end)                       |
| Number of channels             | 16                                      |
| Number of terminal per channel | 1                                       |

## Complementary

|  |  |
|--|--|
| Terminal block type                    | Removable  |
| Polarity distribution                  | Polarity distribution contact common per group of 8 channels   |
| Fixing mode                            | By clips on 35 mm symmetrical DIN rail<br>By screws on solid plate with fixing kit   |
| Width                                  | 125 mm   |
| Current per output common              | $\leq 12$ A  |
| Current per channel                    | 2 A (preactuator end)  |
| Minimum switching current              | 1 mA at $\geq 5$ V   |
| Drop-out voltage                       | 2.4 V at 20 °C (PLC end)   |
| Switching frequency                    | $\leq 0.5$ Hz<br>$\leq 10$ Hz  |
| Threshold tripping voltage             | At 40 °C   |
| Drop-out current                       | 0.5 mA at 20 °C  |
| Power dissipation per channel in W     | $\leq 0.22$ W (PLC end)  |
| Contacts type and composition          | 1 NO (preactuator end)   |
| Maximum switching voltage              | 250 V AC 50/60 Hz conforming to IEC 60947-5-1<br>30 V DC conforming to IEC 60947-5-1   |
| Number of channel per common           | 8  |
| Electrical durability                  | 500000 cycles, maximum switching current: 200 mA at 24 V DC-13 10 ms (preactuator end)<br>500000 cycles, maximum switching current: 400 mA at 230 V AC-15 (preactuator end)<br>500000 cycles, maximum switching current: 600 mA at 230 V AC-12 (preactuator end)<br>500000 cycles, maximum switching current: 600 mA at 24 V DC-12 (preactuator end) |
| Electrical reliability                 | 1e-008   |
| Operating time                         | $\leq 10$ ms between coil energisation and NO closing<br>$\leq 6$ ms between coil de-energisation and NO opening   |
| Contact bounce time                    | $\leq 5$ ms 1 NO   |
| Operating rate in Hz                   | 10 Hz no load<br>0.5 Hz at le  |
| Mechanical durability                  | 20000000 cycles  |
| [Uimp] rated impulse withstand voltage | 2.5 kV conforming to IEC 60947-1   |
| [Ui] rated insulation voltage          | 2000 V   |
| Installation category                  | II conforming to IEC 60664-1   |

The information provided in this documentation contains general descriptions and/or technical characteristics of the performance of the products contained herein. This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications. It is the duty of any such user or integrator to perform the appropriate and complete risk analysis, evaluation and testing of the products with respect to the relevant specific application or use thereof. Neither Schneider Electric Industries SAS nor any of its affiliates or subsidiaries shall be responsible or liable for misuse of the information contained herein.

|                   |                              |
|-------------------|------------------------------|
| Tightening torque | 0.6 N.m (with flat Ø 3.5 mm) |
| Product weight    | 0.405 kg                     |

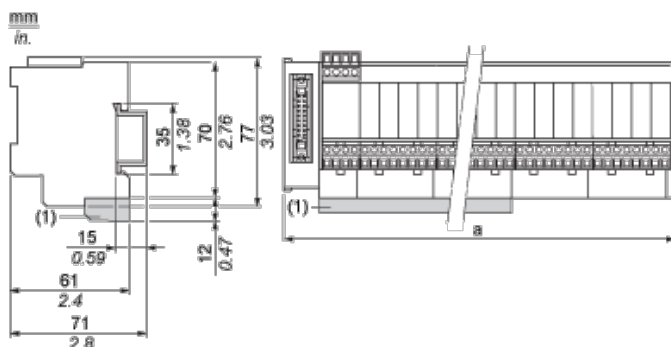
## Environment

|                                       |   |
|---------------------------------------|---|
| max immunity to microbreaks           | <= 5 ms   |
| dielectric strength                   | 2000 V conforming to IEC 60947-1                                      |
| product certifications                | BV<br>CSA<br>DNV<br>GL<br>LROS (Lloyds register of shipping)<br>UL    |
| IP degree of protection               | IP2x conforming to IEC 60529  |
| protective treatment                  | TC  |
| resistance to incandescent wire       | 750 °C, extinction time: < 30 s conforming to IEC 60695-2-11          |
| shock resistance                      | 15 gn for 11 ms conforming to IEC 60068-2-27                          |
| resistance to radiated fields         | 10 V/m (26000000...1000000000 Hz) conforming to IEC 61000-4-3 level 3 |
| resistance to fast transients         | 2 kV conforming to IEC 61000-4-4 level 3                              |
| ambient air temperature for operation | -5...60 °C conforming to IEC 61131-2                                  |
| ambient air temperature for storage   | -40...80 °C conforming to IEC 61131-2                                 |
| pollution degree                      | 2 conforming to IEC 60664-1   |

## Offer Sustainability

|                                  |   |
|----------------------------------|---|
| Sustainable offer status         | Green Premium product   |
| RoHS (date code: YYWW)           | Compliant - since 0841 - Schneider Electric declaration of conformity |
| REACH                            | Reference not containing SVHC above the threshold                     |
| Product environmental profile    | Available   |
| Product end of life instructions | Available   |

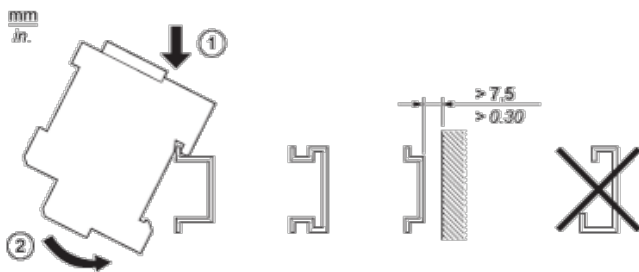
## Dimensions



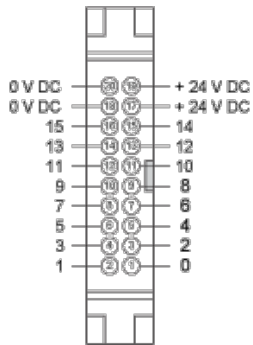
(1) ABE7BV20 / ABE7BV20E

| ABE7               | a in mm | a in in. |
|--------------------|---------|----------|
| R16S111 / R16S111E | 125     | 4.92     |
| R16S21 / R16S21•E  | 206     | 8.11     |

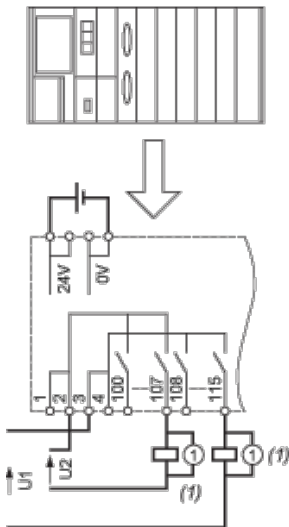
## Mounting



## HE10 16 Channels



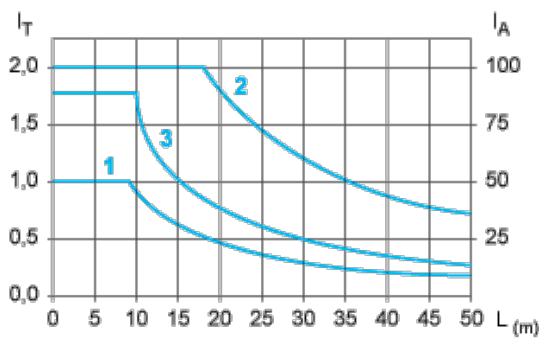
## Wiring Diagram



(1) Inductive load

## Curves for Determining Cable Type and Length According to the Current

### 16-channel Sub-base



L Cable length

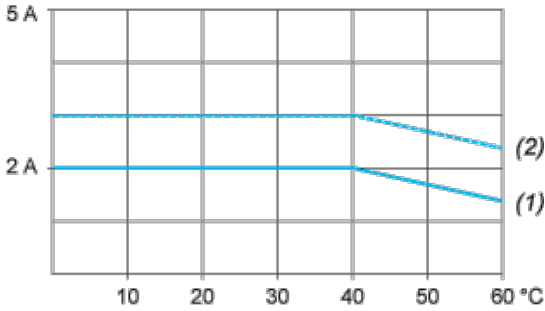
$I_T$  Total current per sub base (A)

$I_A$  Average current per channel (mA)

- (1) TSXCDP\*\*2 and ABFH20H\*\*0 cables with c.s.a. 0.08 mm<sup>2</sup> (AWG 28).
- (2) TSXCDP\*\*3 cables with c.s.a. 0.34 mm<sup>2</sup> (AWG 22).
- (3) Cables with c.s.a. 0.13 mm<sup>2</sup> (AWG 26).

The curves are given for a voltage drop of 1 V in the cable. For n volts tolerance, multiply the length determined from the graph by n.

### Temperature Derating Curves

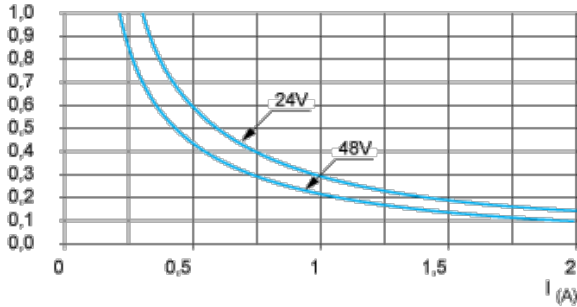


- (1) 100 % of channels used
- (2) 50 % of channels used

### Electrical Durability (in Millions of Operating Cycles) Conforming to IEC 60947-5-1

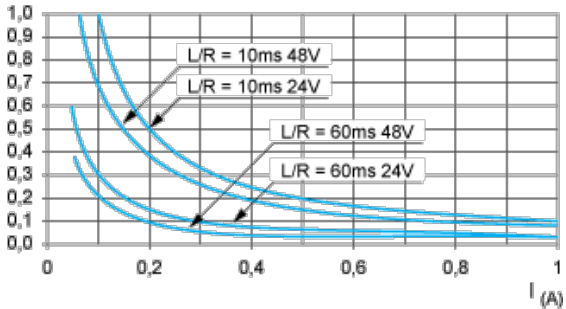
#### DC Loads

DC12 curves



DC12 control of resistive loads and of solid state loads isolated by optocoupler,  $I/R \leq 1$  ms.

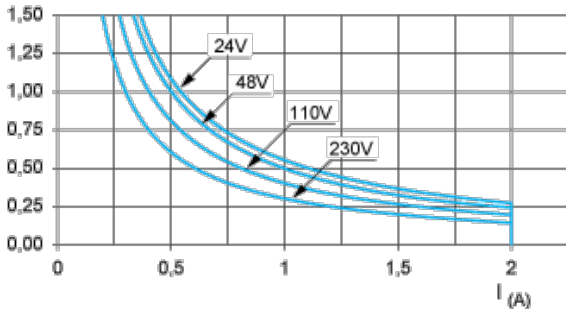
DC13 curves



DC13 switching electromagnets,  $L/R \leq 2 \times (U_e \times I_e)$  in ms,  $U_e$ : rated operational voltage,  $I_e$ : rated operational current (with a protective diode on the load, DC12 curves must be used with a coefficient of 0.9 applied to the number in millions of operating cycles)

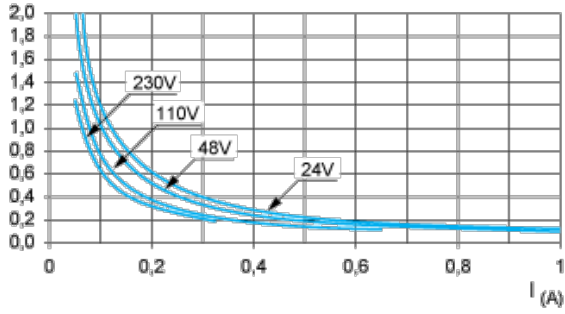
#### AC Loads

AC12 curves



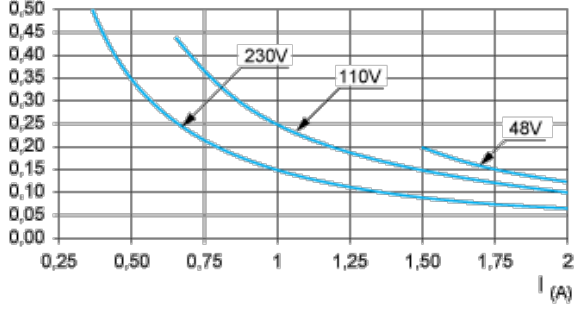
AC12 control of resistive loads and of solid state loads isolated by optocoupler,  $\cos \phi \geq 0.9$ .

AC14 curves



AC14 control of small electromagnetic loads  $\leq 72$  VA, make:  $\cos \phi = 0.3$ , break:  $\cos \phi = 0.3$ .

AC15 curves



AC15 control of electromagnetic loads  $> 72$  VA, make:  $\cos \phi = 0.7$ , break:  $\cos \phi = 0.4$ .