



HES160NC

**Moulded Case Circuit Breaker h3+ P160 Energy 3P3D 160A 70kA CTC**

**Technical properties**

**Architecture**

|                           |                 |
|---------------------------|-----------------|
| Type of order             | Toggle          |
| Neutral position          | without neutral |
| Number of protected poles | 3               |
| Number of poles           | 3 P             |
| Type of pole              | 3P3D            |
| Type of case              | Fixed built-in  |

**Functions**

|  |        |
|--|--------|
| Complete device with protection unit   | Yes    |
| Reversing switch                       | No     |
| Version as main switch                 | Yes    |
| Version as emergency stop installation | No     |
| Version as safety switch               | No     |
| Version as maintenance-/service switch | Yes    |
| Trip Unit                              | ENERGY |
| Integrated earth fault protection      | No     |

**Controls and indicators**

|                        |    |
|------------------------|----|
| Motor drive integrated | No |
|------------------------|----|

**Main electrical features**

|                              |             |
|------------------------------|-------------|
| Rated operational voltage Ue | 220 / 690 V |
| Type of supply voltage       | AC          |
| Frequency                    | 50/60 Hz    |

**Voltage**

|                                 |       |
|---------------------------------|-------|
| Rated insulation voltage        | 800 V |
| Rated impulse withstand voltage | 8 kV  |
| With under voltage release      | No    |

**Electric current**

|   |        |
|---|--------|
| Rated current   | 160 A  |
| Rated ultimate short-circuit breaking capacity Icu under 690V AC IEC 60947-2        | 6 kA   |
| Rated short-time withstand current Icw<br>t=0.4S 220-240 V AC according IEC 60947-2 | 1.6 kA |
| Rated short-time withstand current Icw<br>t=0.4S 380-415 V AC according IEC 60947-2 | 1.6 kA |
| Rated short-time withstand current Icw<br>t=0.4S 660-690 V AC according IEC 60947-2 | 1.6 kA |

|  |             |
|--|-------------|
| Rating current 10°C according to IEC 60947                                   | 160 A       |
| Rating current 15°C according to IEC 60947                                   | 160 A       |
| Rating current 20°C according to IEC 60947                                   | 160 A       |
| Rating current 25°C according to IEC 60947                                   | 160 A       |
| Rating current 30°C according to IEC 60947                                   | 160 A       |
| Rating current 35°C according to IEC 60947                                   | 160 A       |
| Rating current 40°C according to IEC 60947                                   | 160 A       |
| Rating current 45°C according to IEC 60947                                   | 160 A       |
| Rating current 50°C according to IEC 60947                                   | 160 A       |
| Rating current 55°C according to IEC 60947                                   | 160 A       |
| Rating current 60°C according to IEC 60947                                   | 160 A       |
| Rating current 65°C according to IEC 60947                                   | 160 A       |
| Rating current 70°C according to IEC 60947                                   | 150 A       |
| Rated service breaking capacity Ics under 660V AC according IEC 60947-2      | 6 kA        |
| Breaking capacity on 1 pole for IT 230V NF 60947-2                           | 2.5 kA      |
| Breaking capacity on 1 pole for IT 400V NF 60947-2                           | 2.5 kA      |
| Breaking capacity on 1 pole for IT 415V NF 60947-2                           | 2.5 kA      |
| Rated ultimate short-circuit breaking capacity Icu under 230V AC IEC 60947-2 | 85 kA       |
| Rated ultimate short-circuit breaking capacity Icu under 240V AC IEC 60947-2 | 85 kA       |
| Rated ultimate short-circuit breaking capacity Icu under 400V AC IEC 60947-2 | 70 kA       |
| Rated ultimate short-circuit breaking capacity Icu under 415V AC IEC 60947-2 | 70 kA       |
| Rated service breaking capacity Ics under 110-138V AC according IEC 60947-2  | 85 kA       |
| Rated ultimate short-circuit breaking capacity Icu under 220V AC IEC 60947-2 | 85 kA       |
| Rated ultimate short-circuit breaking capacity Icu under 380V AC IEC 60947-2 | 70 kA       |
| Rated ultimate short-circuit breaking capacity Icu under 660V AC IEC 60947-2 | 6 kA        |
| <b>Dimensions</b>  |             |
| Depth of installed product   | 97 mm       |
| Height of installed product  | 130 mm      |
| Width of installed product   | 90 mm       |
| <b>Frequency</b>   |             |
| Frequency  | 50 to 60 Hz |
| <b>Power</b>   |             |
| Total power loss under IN  | 27 W        |
| Power loss per pole at In  | 9 W         |
| <b>Endurance</b>   |             |
| Electric endurance in number of cycles                                       | 10000       |
| Number of mechanical operations  | 40000       |

Subject to technical modifications

**Cover, door**

|               |     |
|---------------|-----|
| Interlockable | Yes |
|---------------|-----|

**Installation, mounting**

|   |     |
|---|-----|
| Tightening torque                       | 6Nm |
| DIN rail mounting with optional adaptor | Yes |
| Suitable for front mounting center      | No  |
| Suitable for front mounting             | No  |
| Suitable for ground mounting            | Yes |

**Connection**

|   |                       |
|---|-----------------------|
| Connection cross-sect. flexible conductor | 6 / 70mm <sup>2</sup> |
| Connection cross-sect. rigid cable        | 6 / 95mm <sup>2</sup> |
| Connection                                | Front connection      |
| Type of connection                        | with screw            |

**Protection**

|                                     |            |
|-------------------------------------|------------|
| Instantaneous protection (Ii): type | adjustable |
|-------------------------------------|------------|

**Cable**

|                |    |
|----------------|----|
| Cable Material | Cu |
|----------------|----|

**Equipment**

|   |     |
|---|-----|
| Number of auxiliary contacts as normally closed contact | 0   |
| Number of auxiliary contacts as normally open contact   | 0   |
| Number of auxiliary contacts as change-over contact     | 0   |
| Motor drive optional                                    | No  |
| Can be accessorized                                     | Yes |

**Use cases**

|                 |   |
|-----------------|---|
| Category of use | A |
|-----------------|---|

**Use**

|                                 |                        |
|---------------------------------|------------------------|
| Vibrations and shocks withstand | IEC 68068-2-52 Test FC |
|---------------------------------|------------------------|

**Standards**

|               |             |
|---------------|-------------|
| Standard text | IEC 60947-2 |
|---------------|-------------|

**Safety**

|               |     |
|---------------|-----|
| REACH conform | No  |
| RoHS conform  | Yes |
| Halogen free  | No  |

**Use conditions**

|  |                                    |
|--|------------------------------------|
| Degree of pollution according to IEC 60664 / IEC 60947-2 | 3                                  |
| Altitude   | 2000 m                             |
| Air humidity protection                                  | 95%HR 55°C sev Kn (IEC 68-2-30/52) |