

ISO 20949:2018 (E)

Aircraft — Smart contactor — General requirements

Contents

| | |
|---------|--|
| | Foreword |
| | Introduction |
| 1 | Scope |
| 2 | Normative references |
| 3 | Terms and definitions |
| 4 | General requirements |
| 4.1 | Detail specification sheets |
| 4.2 | Materials |
| 4.3 | Construction |
| 4.4 | Terminals |
| 4.4.1 | Main terminals |
| 4.4.1.1 | General |
| 4.4.1.2 | Stud terminals (threaded) |
| 4.4.1.3 | Plug-in terminals |
| 4.4.2 | Auxiliary terminals |
| 4.5 | Enclosures |
| 4.5.1 | General |
| 4.5.2 | Open enclosures |
| 4.5.3 | Enclosed enclosures (ventilated explosion-proof) |
| 4.5.4 | Sealed (other than hermetically) enclosures |
| 4.5.5 | Hermetically sealed enclosures |
| 4.5.6 | Grounding of enclosures |
| 4.6 | Installation clearances |
| 4.7 | Terminal marking |
| 4.8 | Terminal covers and barriers |
| 4.9 | Mounting |
| 5 | Design characteristics |
| 5.1 | General |
| 5.2 | Control signal |
| 5.3 | Status signals for smart contactors |
| 5.4 | Fail-safe characteristics |
| 6 | Operating characteristics |
| 6.1 | General operating characteristics |
| 6.2 | Timing sequence |
| 6.3 | Operating voltage |
| 6.3.1 | General |
| 6.3.2 | Pickup voltage |
| 6.3.3 | Dropout voltage |
| 6.4 | Electrical characteristics |
| 6.4.1 | General |
| 6.4.2 | Contact voltage drop |
| 6.4.3 | Quiescent power dissipation |
| 6.4.4 | Control signals |
| 6.4.4.1 | General |
| 6.4.4.2 | Control power supply current |
| 6.4.4.3 | Transient voltage |
| 6.4.4.4 | Status turn-off time |
| 6.4.4.5 | Status turn-on time |

- 6.4.4.6 Turn-off voltage
- 6.4.4.7 Turn-on voltage
- 6.4.4.8 Control current
- 6.5 Contact bounce, operating and release time
- 6.6 Dielectric strength
- 6.7 Insulation resistance
- 6.8 Overload characteristics
- 6.8.1 General
- 6.8.2 Trip characteristics with the overload condition
- 6.8.3 Circuit breaker compatibility
- 6.9 Ground Fault Interrupt characteristics
- 6.10 Trip-free characteristics
- 6.11 Life
- 7 Environmental conditions and test procedures
- 8 Qualification Tests
 - 8.1 General
 - 8.2 Visual and mechanical examination
 - 8.3 Timing sequence
 - 8.3.1 Turn-off time
 - 8.3.2 Turn-on time
 - 8.4 Operating voltage
 - 8.4.1 General
 - 8.4.2 Pickup voltage
 - 8.4.2.1 General
 - 8.4.2.2 Pickup voltage at room temperature
 - 8.4.2.3 Pickup voltage at high temperature
 - 8.4.3 Dropout voltage
 - 8.5 Electrical characteristics
 - 8.5.1 General
 - 8.5.2 Contact voltage drop
 - 8.5.3 Quiescent power dissipation
 - 8.5.4 Control signals
 - 8.5.4.1 Control power supply current
 - 8.5.4.2 Transient voltage
 - 8.5.4.3 Status turn-off time
 - 8.5.4.4 Status turn-on time
 - 8.5.4.5 Turn-off voltage
 - 8.5.4.6 Turn-on voltage
 - 8.5.4.7 Control current
 - 8.6 Contact bounce, operating and release times
 - 8.7 Dielectric withstanding voltage
 - 8.8 Insulation resistance
 - 8.9 Overloads
 - 8.9.1 Trip characteristics with the overload condition
 - 8.9.2 Circuit breaker compatibility
 - 8.10 Ground Fault Interrupt characteristics
 - 8.11 Trip-free characteristics
 - 8.12 Life
 - 8.13 Terminal strength
 - 8.14 Seal