

ANGEL SYSTEM

TECHNICAL DATA SHEET

The helper in emergencies: ANGEL detects electrical accidents and falls and calls for help - a comprehensive companion when working with dangerous electrical voltage. The system consists of individual components, their technical data is listed below.

ANGEL Genius

Weight: 33g
Dimensions: 72 x 42 x 13 mm
Weight of starter package: 350g
Dimensions of starter package: 300 x 210 x 35 mm
Measurement input voltage range: max 7.40 Vrms
Charging: with ADRESYS charging cradle only
Charging current: typ. 140mA
Power on resistance between pins 2 and 3: <1kOhm

IP protection: IP 52
Humidity: 10 – 90 %rh
Lithium-Ion-Polymer battery: 0.88 Wh
Genius operating battery runtime: 12 h typ.

Working Conditions:
Operation: -10 to 50°C
Storage: -10 to 50°C
for optimal battery lifetime: 10°C to 25°C
Charging: 0 to 40°C
Limitation: Not allowed for people with cardiac pacemakers

EMC standards

- EN55011 Group 1 Class B Electromagnetic disturbance characteristics – Limits and methods of measurement.
- EN61326-1:2013
- Electrical equipment for measurement, control and laboratory use – EMC requirements
- EN300328 V2.2.2
- Wideband transmission systems; Data transmission equipment operating in the 2,4 GHz band
- FCC 47 CFR Part 15
- Federal Communications Commission (FCC) rules and regulations regarding unlicensed transmissions
- EN62368-1:2015 + AC 2015
- Audio/video, information and communication technology equipment - Part 1: Safety requirements
- Contains FCC-ID: X8WBT840
- Contains IC: 4100A-BT840

ANGEL Shirt

Weight (depending on size): 170 – 260 g
Weight packed with test protocol: 190 – 280 g
Dimensions of packed shirt: 250 x 300 x 30 mm
Shirt material: 100% eco cotton
Grammage: 150 g/cm²
Cuff material: 92% eco cotton, 8% Lycra®
Grammage cuffs: 155 g/cm²
Fabric shrinkage due to washing: max. 8%

Electrodes: Polyurethane with graphite
Contact points: 4 stainless steel buttons

Care



spin cycle ≤ 1200rpm. No industrial washing.
Durability at specified washing conditions: 50 cycles typ.
Certificates of fabric: OEKO-TEX® STANDARD 100, PIMA®, ISO, bluesign®

Custom Specific Logo

Type: Thermotransfer only
Washing: see Care

ANGEL App

The ANGEL App is a companion app for the ANGEL Genius running on Android and iOS smartphones.

Supported Operating Systems: Android 5.1 to 11, iOS 10 to 13
System requirements: Bluetooth LE (4.2 or higher), Location service (e.g. GPS), Internet connection (e.g. WiFi or 3G/LTE/5G)

The app needs to run permanently in background. This increases battery usage of the phone. A permanent data connection is required for sending alarms and to communicate with the ANGEL infrastructure services. Depending on current policies of the system operators, it could be that the app is hindered from using this service. Further details can be found in your app store (e.g. detailed permissions required by the App).

Typical average data volume transferred per day is below 5 MB. Costs for data usage might arise. Text message services might be used as redundant data path for alarm messages. Additional costs for alert messages might arise.

Infrastructure

Multiredundant data infrastructure in European Geolocations: 2 redundant alarm paths from phone to emergency center: ≥2
Emergency Center certifications: VdS 3138-1:2013-12, VdS 3138-2:2014-06, DIN EN 50518-1:2014-10, DIN EN 50518-2:2014-10, DIN EN 50518-3:2014-10. Not redundant server for user registration. Registration is obligatory to use service.

Charger

Weight: 50g
Connection: USB-C male
Supply voltage: +5V ±2%
Current continuous: 250mA
Standby current when Genius full: 35mA
Standby current when no Genius attached: 550 µA

Working Conditions:
Operation: 0 to 40°C
Storage: -10 to 50°C

Power Supply

Device is third party and potentially subject to change.
Weight: 26g
Connection: Euro male Type C, USB-A female
Voltage range: 100 – 240 Vrms/50-60Hz
Input current: max. 300mA_{rms}
Output current: max. 1 ADC
Protection level: IP20
Protection class: II