IQT Failsafe *Pro* range

rotork®

IQT Failsafe *Pro*

The IQT Failsafe actuator provides valve failsafe operation by utilising power from a battery source during AC supply mains failure. Under normal supply conditions the actuator operates from the site AC electrical supply. On loss of this supply the actuator automatically switches over to receive power from a 24V DC supply allowing control of the valve to the mains failsafe position.

IQT Failsafe *Pro* Type 1 - External Failsafe

Suitable for use in hazardous and non-hazardous locations, Type 1 includes connection for a customer supplied 24V DC supply in addition to the normal AC supply. For further information see page 2.

IQT Failsafe *Pro* Type 2 - Battery Failsafe

Suitable for use in non-hazardous locations only, Type 2 includes a battery located in the actuator terminal cover, charged from an integral charging system when AC power is applied to the actuator. For further information see page 2.

IQT Failsafe *Pro* offers the following powerful features:

- Same performance as Standard IQT.
- Three phase, Single phase and DC power supplies (type 1 only).
- Modulating duty option.
- Full-turn and multiport option.

Setting Tool *Pro* features:

- Stores downloaded data for analysis with InSight software on PC's.
- Fast, easy configuration of multiple actuators on site using transferrable settings feature.
- Intrinsically Safe robust construction.

IQT Pro

IQT Failsafe *Pro*

Publication E116E
Issue 05/06

IQT Failsafe *Pro*

TYPE 1 – External Failsafe

Suitable for use in hazardous and non-hazardous locations, Type 1 includes connection for a customer supplied 24V DC supply in addition to the normal AC supply. On loss of the AC supply the actuator automatically switches over to the 24V DC failsafe supply and local or remote control is maintained.

Remote control under failsafe supply must be by hardwired type control, externally powered only. Folomatic proportional control, CPT 4-20mA position feedback and serial digital network control are not supported under 24V DC supply operation.
Refer to E120E.

The operating cycles available under failsafe operation are a function of the 24V DC supply capacity. DC battery supply must conform to 24V DC supply requirement; refer to E135E for IQT electrical data.

TYPE 2 - Battery Failsafe

Suitable for use in non-hazardous locations only, Type 2 includes a battery located in the actuator terminal cover, charged from an integral charging system when AC power is applied to the actuator. On loss of the normal AC supply the actuator automatically switches over to the onboard 24V DC battery supply.

Operation on loss of AC supply

IQT Battery Failsafe actuator can be user configured to respond as follows:

- Automatic close on loss of supply
- Automatic open on loss of supply
- Stayput waiting for local or remote control command

Failsafe control or positioning must be completed within 30 minutes of loss of AC supply as the battery supply is disconnected at this time to prevent deep discharge damage to the batteries.

Remote operation is by hardwired control systems only, derived from and external supply source as the actuator 24V DC supply is not supported under battery operation. Folomatic proportional control, CPT 4-20mA position feedback and serial digital network control are also not supported under battery operation.

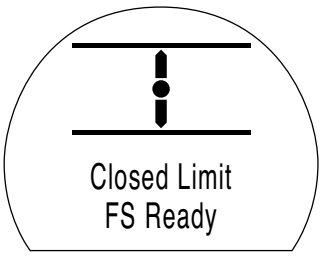
The IQT monitor relay will de-energise on loss of AC supply.

Charger

The IQT battery failsafe is dispatched with the batteries in a charged state, however once the IQT is connected to AC power the batteries will automatically begin charging to bring them to the float charge state. For correct battery charging, the IQT supply voltage must not be less than 90% of nominal.

Maintenance

Ensure the two vents located in the battery pack cover are not removed, plugged or covered. The batteries are sealed lead acid type and require no maintenance. Refer to E175E3 for IQT range maintenance.



IQT Battery Failsafe Actuator Display

IQT Failsafe *Pro* Features

IQT Failsafe *Pro* actuators use the new Rotork IQ and IQT *Pro* main board to provide the following powerful features:

- Larger clearer icon and text display.
- Customer configurable multilingual text capability.
- Datalogger valve torque signature profiling.
- Status & monitoring diagnostics.
- Retrofittable to existing IQ & IQT actuators manufactured since 2000.
- Improved data download speed x10.

The Rotork Setting Tool Pro features include:

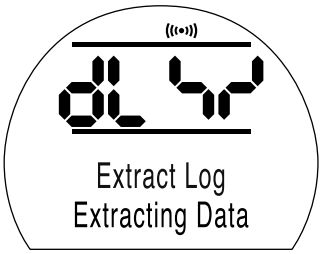
- Non-intrusive, Infra red communication.
- Intrinsically safe for use in hazardous areas.
- On site actuator configuration and data download.
- Data transfer from actuator to PC with free Rotork Insight software *
- Capacity for 10 configuration and 4 datalogger files.
- Multiple configuration capability.
- Compatible with all IQ & IQT actuators.

Multi Language Text and Icon Display

The IQT Failsafe *Pro* range features a new larger and clearer multilingual text and icon display. The descriptive text can now be configured for a number of languages, with each language module downloadable from the rotork website. Once the appropriate languages have been downloaded they can be uploaded to the actuator using the Setting Tool *Pro*.

The new ergonomically designed and intrinsically safe Rotork Setting Tool *Pro* is compatible with all existing IQ and IQT range actuators and is safe for use in any environment / hazardous location.

Setting Tool *Pro* Download & Upload



The Rotork Setting Tool *Pro* includes a feature which allows the user to extract and store IQ and IQT actuator configuration and datalogger files within the Tool. Stored files can be viewed using a PC running IQ Insight©. Using This tool, stored configuration files can also be uploaded back to IQ and IQT actuators in order to replicate a setup for multiple units (limits must be set individually).

IQ Insight is available free from www.rotork.com

For further information on IQ *Pro* features, see publication E1120E.

* Note: Setting Tool *Pro* data transfer capability is compatible with IQ actuators supplied since 2000.

Established Leaders in Actuation Technology

IQT Failsafe *Pro* Specification

The IQT Failsafe *Pro* has the same specification as the IQT, described fully in Publication E110E.

General

Enclosure Non-hazardous	IEC - IP 68 – 7m / 72 hrs, NEMA4, 4X & 6.
Enclosure Hazardous	ATEX, FM, CSA or IEC (For other specific certification, contact Rotork).
Temperature	Type 1: –30 to +70°C Type 2: –30 to +60°C (see E110E for full ranges and certification limitations).
Power Supplies	24V DC (type 1 only), 1-Phase / 3-Phase 50/60Hz. Refer to publication E135E for electrical data.
Failsafe Option	Type 1 - 24V DC customer supplied; Type 2 – Battery Pak
Mounting Interface	IS0 5211, MSS - SP101.
Lubrication	Oil bath lubrication. Food grade available as an option.
Handwheel	Side mounted geared handwheel.
Conduit/cable entries	2 x M25. Additional 2 x M25 available as an option.
Orientation	Any.
Finish	Polyester powder coating. 2-Pak epoxy available as an option.

System

Set–up	Non intrusive Infra-red using the Rotork Setting Tool (supplied).
Local Display	LCD position indication (% open) plus set up and alarm displays.
Mechanical Stops	90°, adjustable +/– 10°
Limit switching	Open/Close limits can be set between 10° and 100°.
Torque switching	Independently adjustable open and close torque switches can be set fro 40% to 100% rated torque. "Boost" can be set in the opening direction.
Speed	Setting tool adjustable Refer to IQTF performance table.

Support Tools

Support Tools	PC Software: IQ Insight PDA software: IQ Pocket Insight

Control

Base wiring diagram	Type 1 6008-000 Type 2 6009-000
Local Control	Non-intrusive "Local/Stop/Remote" and "Open/Close" selectors.
Remote control	Hardwired "Open/Close/Stop/ESD" inputs plus "Open/Close" Interlock facility.
Remote control options	Analogue 4-20mA - Folomatic.
Network control options:	Pakscan 2-wire control, Modbus, Profibus, Foundation Fieldbus, DeviceNet.
IQTF-Multiport	Modbus plus multiport firmware.

Indication

Remote Indication	4 x configurable "S" contacts for valve position, alarm & fault indication.
Remote indication options	4-20mA auto-scaling position output (CPT). Network control options include position and alarm status indication

Battery Pack

Type	Sealed Lead-Acid located in a vented enclosure
Voltage	28V
Capacity	2.5 Ah
Float Life	8 years at 20°C, 3 years at 40°C
Storage Life	2 years at 23°C, 2 months at 60°C
Pack Weight	5.5 Kg
Charging Time	Typically 4 hours from discharge
Charge State indication	Tri-colour LED, Red - Depleated, Amber - Low, Green - Full
Protection - DC Power	FS3&4 20A, automobile type ATO fast acting
Protection - Charge/Control	FS1&2 2A, 20mm quick blow type

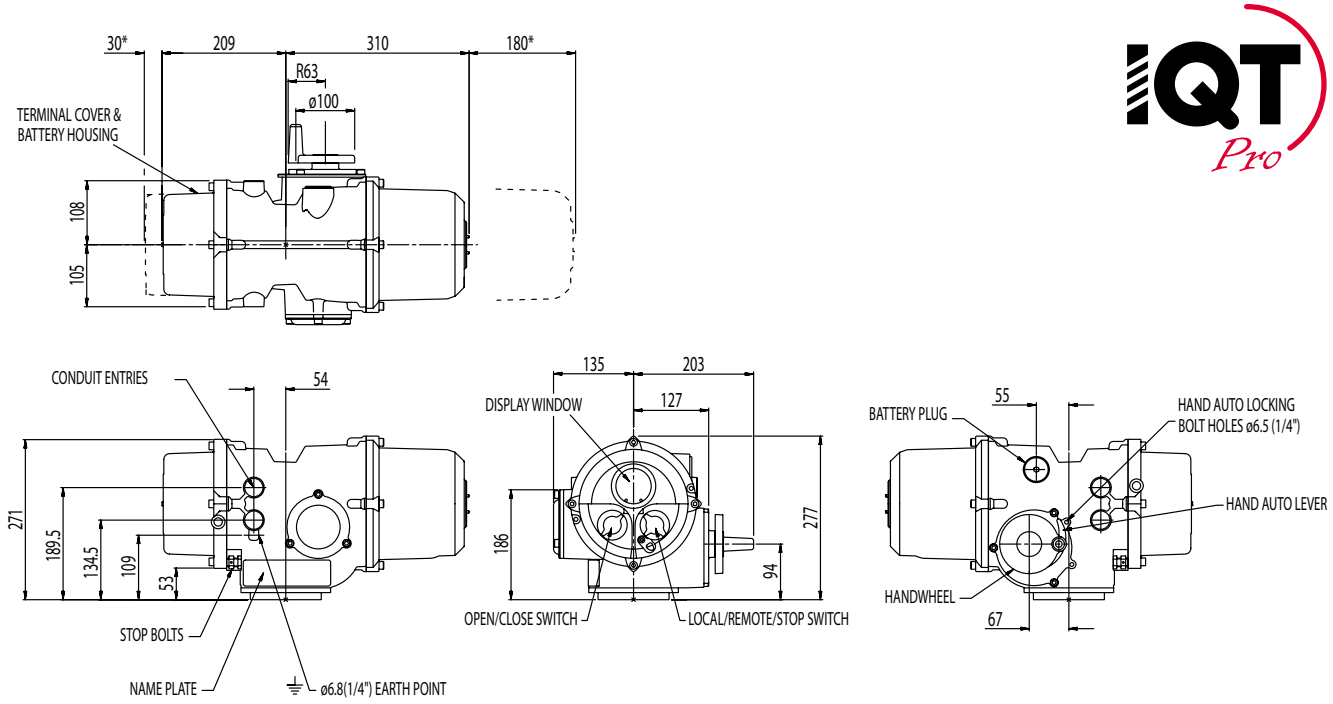
IQT Battery Failsafe *Pro* Operation

Number of operations at 75% rated torque.

Temperature	IQT125	IQT250	IQT500	IQT1000	IQT2000
-30	15	12	6	3	1
-20	50	40	20	10	5
-0	63	50	25	12	6
20	75	60	30	15	7
40	75	60	30	15	7
60	75	60	30	15	7

IQT Failsafe *Pro* range

IQT Failsafe *Pro* Dimensional Data



IQT125/250/500

IQT Failsafe supporting documents and software are available for download at www.rotork.com

PC Software	IQ Insight, PDA software: IQ Pocket Insight available for free download
E110E	IQ & IQT Catalogue
E120E	IQ & IQT Control and Monitoring
E135E	IQT electric motor performance data
E175E	IQT Installation & Maintenance Instructions
E117E	IQ Insight software
Dimensions	Available in PDF and DXF format in IQT range - Specifications

UK head office
Rotork Controls Limited
telephone Bath 01225 733200
telefax 01225 333467
email mail@rotork.co.uk

USA head office
Rotork Controls Inc
telephone Rochester (585) 247 2304
telefax (585) 247 2308
email info@rotork.com

Rotork Controls Ltd, Bath, UK

Rotork Controls Inc, Rochester, USA

A full listing of our worldwide sales and service network is available on our website at **www.rotork.com**

Published and produced in the UK by Rotork Controls Limited.
POWTG0506