

FloBoss™ S600+

S600+ Overview

Overview

- Panel mounted case
- 24V DC supply
- Optional I/O expansion boards up to 3 per unit
- Optional Prover I/O board
- PC Windows configuration tools designed for end user (Config600)
- Built-in scripting language - custom calculations
- Enhanced communications LAN & high speed serial
- Storage and selection of up to 20 user configurations



Overview – Config 600

Config600 is a suite of tools designed to :

- Create / configure applications
- Send configurations from a PC to an S600+
- Receive configurations from an S600+ to a PC
- Install new firmware on to the P152 (binary.app)
- Extract live / historical data
- Context sensitive help



Overview – Config600



- Windows Based Configuration Tool
- Available in 4-levels
 - IPL600 (Used to upload / download applications. Free with S600+ if specified)
 - Lite (Hi-level configuration of existing applications)
 - Lite+ (Hi-level configuration and generation of new applications)
 - Pro (Hi and low level configuration and generation of new applications)
- Note: Pro is only licensed to those who attend the Pro training course

Overview – Config600 Versions



Package	IPL600	Lite	Lite+	Pro	Ext
<i>Config transfer</i>	✓	✓	✓	✓	
<i>PCSetup editor</i>		✓	✓	✓	
<i>Report editor</i>		✓	✓	✓	
<i>Modbus editor</i>		✓	✓	✓	
<i>Display editor</i>		✓	✓	✓	
<i>Logicalc</i>				✓	
<i>System editor</i>				✓	
<i>Config generator</i>			✓	✓	
<i>S600 archive</i>					✓
<i>S600 view</i>					✓

Applications:

Gas

- Orifice
- Vcone
- Venturi
- Annubar
- Turbine
- Daniel Ultrasonic
- Instromet Qsonic
- Sick
- Coriolis
- GOST
- Puregas
- Wet Gas

Liquid

- PD/Turbine
- Coriolis
- Daniel Ultrasonic

Proving

- Bi-Directional
- Uni-Directional
- Compact
- Master Meter

Features: system

- Supports up to 10 streams
- Comprehensive and Configurable Alarm system
 - 16 alarm groups
- 10 levels of security
- Maintenance / “calibration” mode

Features: Gas

- ISO5167 1991 / 1998 / 2003 Flange / D-D/2 / Nozzle / Venturi
- AGA3 Mass / Volumetric
- ISO6976 1983 / 1995 Superior / Inferior
- GPA 2172 1996 / 2000 / 2003 / 2009
- AGA5 1981
- AGA7
- AGA8 1994 Gross 1 / Gross 2 / Detailed
- AGA10 (Speed of Sound)
- PTZ
- Puregas
- Wet Gas

Features: Gas

- SGERG-88 / ISO 12213-3 (TM5 & ISO) and others
- Annubar (Dieterich Standard Inc.)
- NX19 1962 / MOD / VDI-VDE 2040
- V-Cone
- Gas component totals / averages / GPA 8173
- GOST
- ISO 12213-2 / 12213-3
- Ethylene – API 2565 Ch 11.3.2.1 / IUPAC / NIST 1045
- MGERG – compressibility
- 1967 Steam Tables

Features: Gas

- Chromat interface
 - US 2251
 - US 2350
 - EU 2551
 - EU 2350 in 2551 emulation mode
 - Generic
 - Siemens
 - Serial and TCP/IP
- DP stacks
 - Single / Low-high / High-High / Low-Mid-High / Low-High-High / 3 identical

Features: Liquid

- Turbine pulse conditioning (Single, Dual Level A or B)
- 1952 Tables 5, 6, 23, 24, 53, 54
- 1980 Tables 5A, 5B, 5D, 6A, 6B, 6C, 6D
- 1980 Tables 23A, 23B, 23D, 24A, 24B, 24C, 24D
- 1980 Tables 53A, 53B, 53D, 54A, 54B, 54C, 54D
- IP2 / ISO 91-1
- IP3 / ISO 91-2 Tables 59A, 59B, 59D, 60A, 60B, 60D
- GPA-TP25 & GPA-TP27 Tables 23E, 24E, 53E, 54E, 59E, 60E
- API 11.2.1 / 11.2.1M / 11.2.2 / 11.2.2M
- API 11.1 2004 Tables 5,6,23,24,53,54,59,60

Features: Liquid

- GPA TP-15 1988/2003
- API MPMS Chapter 11.1 (2004 & Addendum 2007)
- GPA-TP15 & GPA-TP15M (NGL, Propane, Butane Vapour Pressure)
- Batching (Volume / Mass loading)
- BS & W
- Downer
- OIML International Alcoholometric Tables 1973
- Propylene – API Ch 11.3.2.2
- K factor / Meter factor linearisation (10 Point)
- CTSm / CPSm (NPD 1991)
- Dedicated Prover Link

Features: Prover

- 1, 2 or 4 switches
- 4 base volumes
- Dual chronometry (16Mhz reference clock)
- Pulse interpolation (Phase locked loop)
- ISO7278 / IP part X
- Synchronised pulses (master meter P154)
- Mass Based Proving on all Prover types

Features: Prover

- Automatic prove sequencing (with flow balancing)
- Multi-stream and Prover in the same box
- Dedicated Prover Link (up to 40 streams)

Features: Station

- Total / flow rate summation
- Chromat interface
- Densitometer
- Station batching
- Station sampler

Features: Units

- Mass: kg, tonne, ton, lbs
- Volume: Sm³, Skm³, m³, km³, L, kL, CF, MCF, MMCF, bbl, g
- Energy: TJ, GJ, MJ, KJ, Btu, MMBtu, MMMBtu, kWh
- Temperature: °C, °F, Kelvin
- Pressure: bara, barg, kpa, kpag, psiga, psig, kgf/cm², mmH₂O, mmHg, MPaa, MPag
- DP: Mbar, kpa, inH₂O
- Density: Kg/m³, kg/L, lbs/CF, gm/cc, kg/sm³, lbs/bbl, deg API, SG
- CV: MJ/Sm³, GJ/Sm³, Btu/SCF, MJ/kg, GJ/kg, BTU/lb, kWh/m³
- Viscosity: cP, mPa.s, lbm/ft.s, uPa.s, Pa.s
- Diameter: m, cm, mm, yd, ft, in
- Plus others

Features: Reporting

- Tri-register cumulative totals
- Separate maintenance totals
- Separate batch totals
- Three base times
- Four periods for each base time
 - 1, 2, 3, 4, 6, 8, 12 hourly
 - Multi-day, Part-hour (Multi-minute)
 - Daily
 - Weekly
 - Monthly
- Historical archiving
- Report editor
- Reports can access data from other reports, i.e. hourly data on daily reports

Features: Common

- Densitometer (Dual / Single)
- Line switching
- Sampler (Single or Dual can)
- Time / flow weight averages
- Block valves
- PID control
 - Turbine: 200ms response
 - ADC: 600ms – 1 sec response
- Logicalc user programming language

Features: Comm's Protocols

Protocol	Serial	TCP/IP Ethernet
Modbus ASCII	✓	✓
Modbus RTU	✓	✓
Modbus TCP		✓
Webserver		✓

Note: The previously available telnet commands have been replaced with the „Watch List“ debug facility

Features: Comm's Interfaces

Interface	Serial	TCP/IP Ethernet
NTP (Network Time Protocol)		✓
EFM (Modbus)	✓	✓
Dedicated Prover to stream link (Modbus)	✓	
Printer	✓	
Daniel JuniorSonic / SeniorSonic (Modbus)	✓	
Daniel liquid Ultrasonic	✓	✓
Sick Ultrasonic (Modbus)	✓	
Instrument Qsonic (Q.Sonic Communications protocol)	✓	
Micromotion Coriolis	✓	
Daniel 2251, 2551 Chromatograph	✓	
Daniel 2350 Chromatograph	✓	✓
Supervisory Modbus Maps	✓	✓
S600 Peer-Peer communications link	✓	
DDE / OPC (via 3 rd party software)		✓

Features: Available as a 'special'

The following features can be enabled via the system editor:

- Caldon liquid ultrasonic interface
- Instromet Qsonic Modbus interface
- Automatic daylight savings
- Batch recalculation (official vs. unofficial tickets)
- Automatic Batch product tables
- COSTALD (LNG / LPG calcs)
- Aromatics / D1555
- ISO 4267 BS&W calcs
-and many more

FloBoss S600

Key Features:

- Multiple streams in a single unit
- Oil & Gas Applications in a single unit
- High Performance (calc cycle <500mS, Calculation accuracy 0.001%)