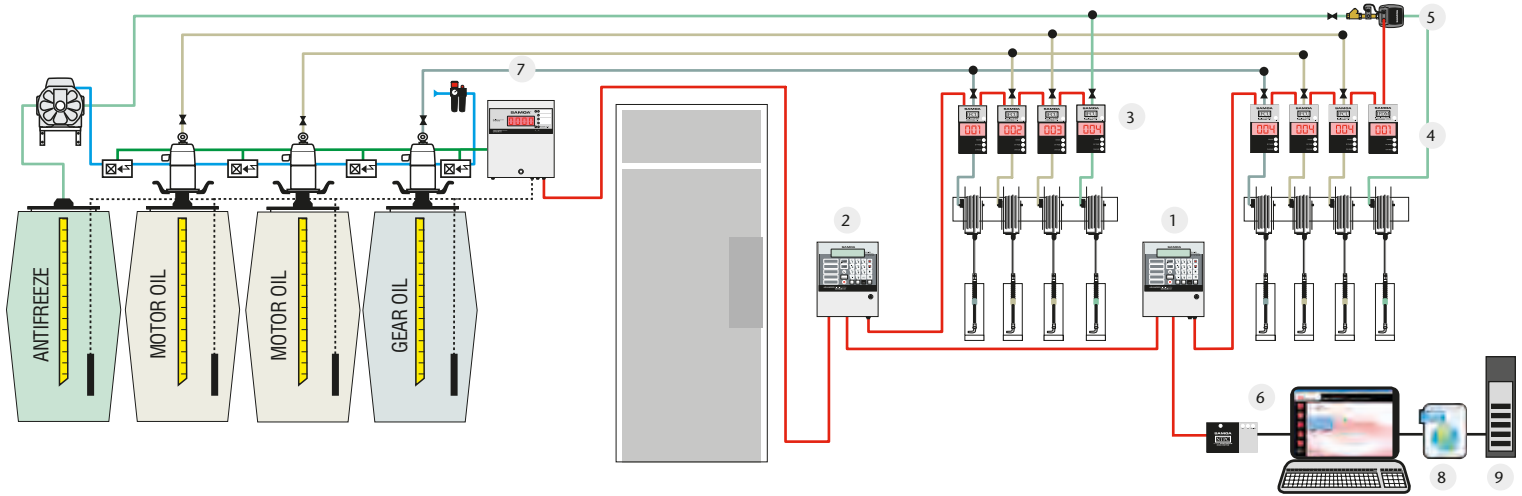


ADVANCED MONITORING SYSTEM	98
ADVANCED MONITORING SYSTEM. BASIC COMPONENTS	100
ADVANCED COMMUNICATION PLATFORM AND ACCESSORIES	101
TANK LEVEL CONTROL SOLUTIONS	102
INVENTORY MANAGEMENT CONSOLE	104
SPECIAL AMS VERSION	105
PRESET DOSING MODULE	106
CONTROL MASTER OIL MONITORING SYSTEM	107





- 1 AMS, ACCESS KEYPAD WITH AMM, APPLICATION SOFTWARE MEMORY MODULE (PN 381 000 + PN 381 600)
- 2 AMS, ACCESS KEYPAD WITHOUT PRINTER (PN 381 000)
- 3 IFCU, INTELLIGENT FLOW CONTROL UNIT (PN 381 500)
- 4 IFDM, INTELLIGENT FLUID DISPENSE MANAGER (PN 381 550)
- 5 FCU, FLUID CONTROL UNIT FOR FLUIDS (380 551)
- 6 NTPC, NETWORK PROTOCOL CONVERTER (PN 381 351 BASIC), (PN 381 352 PROFESSIONAL), (PN 381 353 PREMIUM)
- 7 TRM, TANK ROOM MANAGER (PN 382 100 + PN 382 120)
- 8 ACP PLATFORM (PN 381 66X)
- 9 DMS, DATA MANAGEMENT SYSTEMS SERVER

THE AMS IS DESIGNED TO SATISFY THE NEEDS OF:

- A - The user**, who will be guided during the delivery transaction by a rolling menu and who will have access to innovative functions such as: automatic identification by coded key, multi-fluid delivery under one work order and top up option on request.
- B - The supervisor**, who will have access to a wide variety of parameters that will allow him to set up the system management criteria which best meets his specific needs. Through easy to use PC software, he will be able to modify operator authorizations, adjust tank levels and access a wide range of statistics.
- C - The installer**, he will be able to easily install and set up the system. Directly connected to the main electricity supply (115 / 230 VAC), the AMS keypad has an internal 24 VDC power supply that provides the electrical power to between 1 and 8 outlets maximum, depending on the distance. The number of keypads in a system depends on the layout of the workshop and is not limited. The AMS can manage up to 100 outlets, each equipped with an Intelligent Flow Control Unit.



381 000 - 381 600 - 381 950

381 500

381 352



ACCESS KEYPAD

To be mounted in the workshop to provide technicians with remote access to outlets or reels. Access keypads include a coded key reader for user identification. As an option, a bar code reader can be connected to the access keypad for user identification, job order or job description registration. The access keypad also includes a slot for housing the application software memory module (PN 381 600): One software memory module is required for each installation.

Sturdy metal casing for durability, 25 key alphanumeric keyboard and 2 x 16 digit back lighted LCD display.

381 000 AMS Access keypad (Voltage input: 115 - 230 VAC)

381 600 AMM, Application software memory module

To be inserted into its slot in the access keypad, includes the system operating software. One memory module must be used with every system.

381 950 Cable for Can Bus, 1 m

INTELLIGENT FLOW CONTROL UNIT (IFCU)

The IFCU controls all parameters related with the distribution of fluids and integrates in one single module all of the following elements:

- A large capacity filter, easily accessed for cleaning.
- A double channel pulse transmitter for accurate and reliable metering.
- A solenoid valve to control the fluid line.
- A microprocessor CPU for the fluid outlet management.
- A large 3 digit high visibility display that shows the volume dispensed during the transaction and the outlet number when the outlet is not in use.
- Three LED lights that show the IFCU status.

The IFCU connection to the fluid distribution line is done through 1/2" threaded ports. Its connection to the electronic network is done through 2 standard plug-in electrical connectors (network IN / network OUT).

381 500 Intelligent Flow Control Unit with CAN controller 100 PPL and installation accessories

Includes electrical connectors and two 90° fittings for connection to the fluid distribution line. Connection threads: 1/2" BSP (F).



AMS WIN PC 3.0 + NETWORK PROTOCOL CONVERTER (NTPC)

The network protocol converter allows reliable communication with a PC through an USB connector.

The AMS Win PC software is delivered with the NTPC. The software runs on a WINDOWS operating system and uses ACCESS database.

THREE LEVELS / VERSIONS OF SOFTWARE

381 351 Basic version

This version allows:

- System parameters configuration.
- Declining balance Inventory Control and manual adjustment.
- List and sort of transaction.

381 352 Professional version

Includes all features in Basic version Plus:

- Automatic, real time, inventory control and adjustment using additional TRM or ATS.
- Export transactions to an excel file.

381 353 Premium version

Includes all features in Professional version Plus:

- Unlimited transactions prepared in advance (VPT).
- DMS Integration using ACP (.TXT; ODBC; XML).



381 351

BASIC

381 352

PROFESSIONAL

381 353

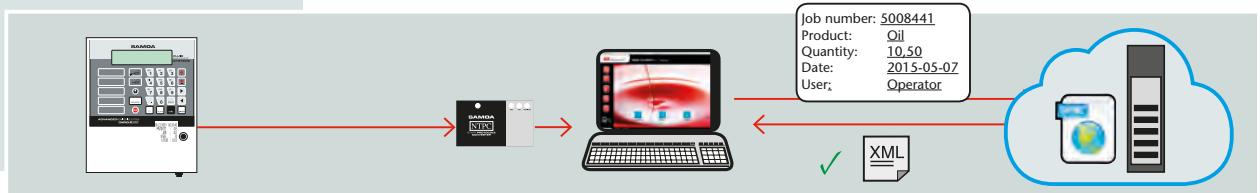
ACP INTERFACE (WEB SERVICE)

- The ACP program allows the AMS Win PC Software to interconnect with the most popular data management systems (DMS) in the market, offering an efficient bidirectional communication.
- Web service interface developed using communication standards (SAOP, XML, WSDL).
- Single or multiple validation of transactions (ex: Job Number, Oil Type, Litres, etc.).
- Export of all transactions data to the customer DMS.
- Other communication formats available (only single validation), such as:
Text Files (.TXT) or Database (.ODBC)
- Contact your SAMOA Distributor who will assist you with the ACP software you need.

VALIDATION, Single or multiple fields



DATA EXPORT TO DMS, Transaction completed



381 102



381 102 Additional power supply box

Each access keypad has a power supply box that provides energy to the system for opening and closing up to eight solenoid valves. An additional power net box is required when one single keypad needs to control more than eight hose reels or if the distance between the keypad and the last IFCU is too long.

381 700



381 700 Remote display unit (RDU)

High visibility 3-digit display, identical to the IFCU display. It displays in real time the delivery details of any transaction in a remote location. It is particularly useful when a hose reel is mounted onto a frame, which can be used from both sides. One RDU can display the delivery of any IFCU present on the network.

381 550



381 550 Intelligent fluid dispenser Manager (IFDM)

The IFDM manages the flow control units whenever the system requires a special pulse meter or solenoid valve (type of fluid, flow rate, pressure, etc.). It has the same electronic management functions as the IFCU.

381 905



381 901



381 912



736 349

ACCESSORIES

381 905 Five coded keys set

381 901 Bar coded reader

381 200 Thermal ticket printer

Ticket printer for installation inside the access keypad.

381 950 Cable for CAN bus

Communications cable to connect system elements, adequate in most installations.

736 353 Wall bracket for 381 000 or 381 001 Keypads

for wall mounted applications.

381 912 IFCU bracket for open reels (501 and 504 series)

for wall mounted applications.

736 349 Bracket for mounting up to 6 IFCUs (381 500)

on top of a six hose reel stand (360 160). Requires brackets 381 911 and 381 910.

381 911 IFCU bracket.

Use together with 736 349.

381 910 IFDM or remote display (RDU) bracket.

Use together with 736 349.

736 377 Cover

It covers the open area of bracket 736 349 when no IFCU is installed.

382 100

TANK ROOM MANAGER



Control module to monitor the volume in up to four tanks using barometric level sensors. The level sensors provide accurate measurement of the volume in each tank. The system can work as a stand-alone unit (TRM S/A) or as part of the Advanced Monitoring System AMS (TRM-NET). Four System modules can be connected together to monitor up to 16 tanks.

TRM-NET

When used with an AMS system, the TRM-NET is connected directly via the CAN-BUS network to any keypad of the installation (AMM version 3.1.3 or higher) and it transmits automatically accurate real time information about the level in the oil tanks increasing system security and reliability of the oil inventories. This way manual inventory adjustment is no longer required, for example when new oil is supplied into a tank.

Additionally the TRM-NET can open and close the compressed air supply valves up to four individual air operated pumps (using solenoid valves PN 389 013 or PN 389 012) securing that the fluid pipe line will be under pressure only when there is a request of fluid coming from one of the keypads. The TRM-NET can also control one general air solenoid valve.

382 100 Tank Management System module TRM-NET

382 120 Level sensor

Tank maximum depth 400 cm.

389 013 Compressed air solenoid valve, 1/2" BSP (FF)

10 bar working pressure. For PM4, PM45 and PM60 pumps.

389 012 Compressed air solenoid valve, 1/4" BSP (FF)

10 bar working pressure. For PM2 pumps.

TRM-S/A

When used as a stand-alone unit, the system is set up using an access keypad (PN 382 110). This keypad is used to set up tank parameters and minimum alert levels. Optionally, the TRM S/A can be controlled and set up from a PC using the AMS-WinPC Professional software pack (PN 382 352) that includes the network protocol converter (NTPC) to communicate with a PC through a USB serial port.

382 101 Tank Management System module TRM S/A

382 110 Tank Management System access keypad

382 120 Level sensor

Tank maximum depth 400 cm.

381 352 PC software kit

Includes software and NTPC.

382 120



389 013



382 001

TANK ALERT SYSTEM



Protects the waste oil tanks from overflow and the air operated pumps for new oil tanks from running dry. The module can accept up to four tank level contact sensors, e.g. three low level sensors in fresh oil tanks and one high level sensor in a waste oil storage tank. The unit includes four LED indicators and an acoustic alarm signal warning when each of the tanks reaches a critical level. It has two 24 V outlet for controlling solenoid valves and one 12 V outlet for connecting to a remote flash and acoustic alarm (PN 382 005).

The system can work as a stand-alone unit (ATS Basic+) or as part of the Advanced Monitoring System AMS (ATS-NET).

ATS Basic+

When used as a stand-alone unit, the system can control up to two solenoid valves. On a waste oil tank it prevents overflow by closing a driven valve (PN 389 020). With new oil tanks it can open and stop the compressed air supply to the air operated pumps (using a solenoid valve PN 389 013) preventing the pumps from running dry.

382 001 Tank Alert stand alone module

382 201 Height adjustable contact level sensor

With 5 m cable and 2" BSP (M) connection.

382 005 Remote flash and acoustic alarm

389 020 Driven valve 1 1/2" BSP (F) kit

Air solenoid valve 24 VAC included. For controlling waste oil delivery into the waste oil storage tank.

ATS-NET

When used with an AMS system, the ATS-NET is connected directly via the CAN-BUS network to any keypad of the installation (AMM version 3.1.3 or higher) and it transmits automatically an alarm signal, increasing system security, and preventing running out of stock. Additionally the ATS-NET can open and close the general compressed air supply to all air operated pumps (using a solenoid valve PN 389 013).

382 050 Tank Alert module ATS-NET

382 201 Height adjustable contact level sensor

With 5m cable and 2" BSP (M) connection.

382 005 Remote flash and acoustic alarm

389 013 Compressed air solenoid valve

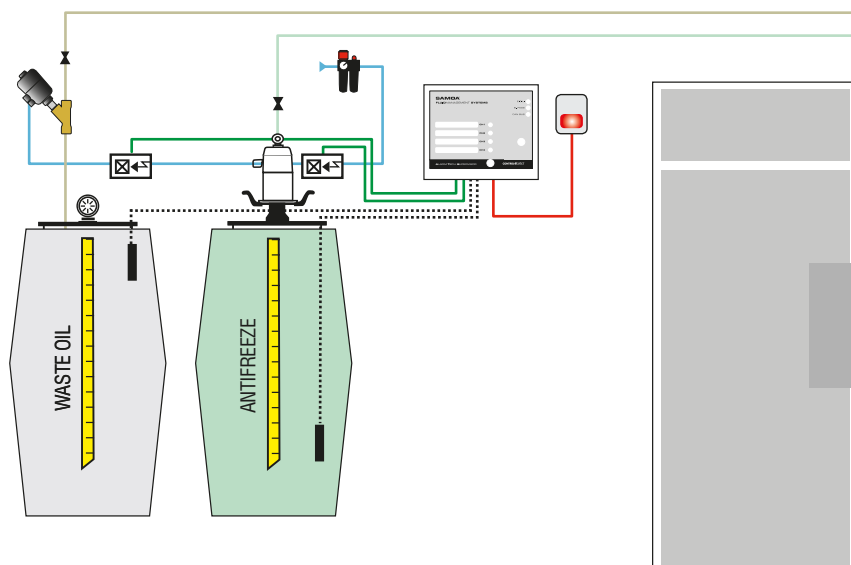
382 201

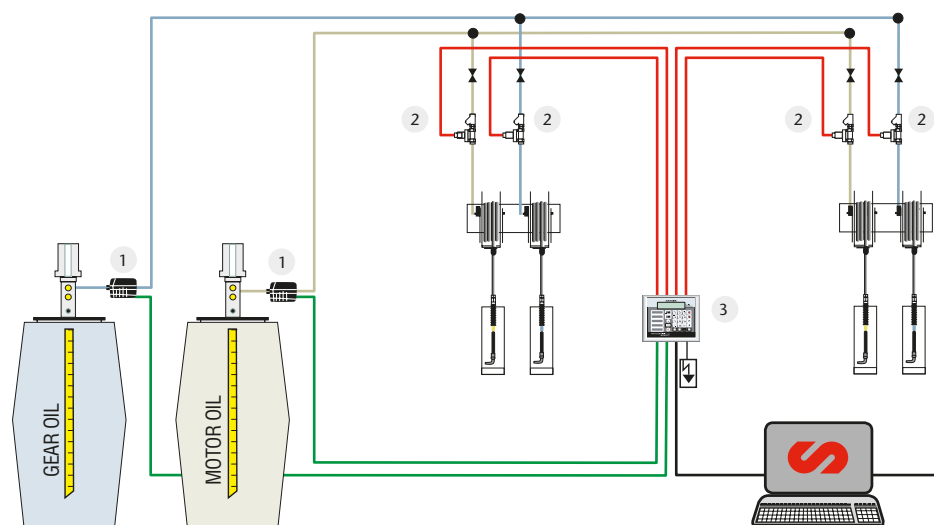


382 005



389 020





- 1 PULSE METER (Max. 2)
- 2 SOLENOID VALVE (Max. 10)
- 3 KEYPAD MODULE

This single keypad system is designed for shops that want simple control of their fluids. IMC offers ease of operation, great value and several features not previously available in entry level Fluid Management and Control System. IMC works with one pulse meter at each pump (maximum two pulse meters) and a solenoid valve at each fluid outlet (maximum 10 solenoid valves in total). The system does not allow simultaneous operation of outlets with the same fluid; however different fluids can be dispensed simultaneously. An upgraded Inventory Management Console, which allows connection to a PC, is available. PC connection makes setting and maintaining the system parameters easier and it is a powerful inventory control tool that allows tank level monitoring to alert the oil vendor or the shop purchase department with an email when the oil inventory level is low.

IMC standard features and capabilities are:

- Controls one or two fluids and up to 10 dispense points. Manages simultaneous dispensing of two different fluids.
- Up to 200 users, system access through pin number or coded key.
- Allows control of one air valve, so air supply is only available during service operating hours.
- Inventory management on a declining balance: allows initial inventory to be entered and deducts for each dispense. Manager needs to enter each delivery and the console alerts when inventory level is low.
- Two operation levels, user and manager levels. At user level it is only possible to order a dispense. At manager level is possible to adjust inventory levels, set inventory warning levels and perform other management functions.
- The system requires 115 or 230 VAC mains power.
- Can work with metric or US units of measure.



381 002 Inventory management console module - 230 V

Access keypad designed to monitor and control fluid dispenses in a workshop from a single or central location. It can control a total of 10 different outlets with two different fluids. The unit tracks fluid dispenses for every single work order and provides additional information regarding each fluid such as current stock, reorder level and stop level. The IMC can also manage a solenoid valve to control the air powering the pumps, either according to a service planning schedule or from a command entered on the keypad by a manager. Four float type level switches provide the signals to control waste fluid levels in two waste fluid tanks and prevent overflow of used oil by disabling the waste product pump.

381 004 Inventory management console module - 115 V

Same as 381 002 for 115 V.

381 003 Inventory management console module with PC connection - 230 V

Similar to model 381 002 plus includes a validation chip and PC software that enables the setting and maintaining of system parameters through a PC. Also, the PC can alert the oil vendor or shop Purchasing Department with an email when the oil inventory level is low.

381 005 Inventory management console module with PC connection - 115 V

Same as 381 003 for 115 V.



366 050

366 050, 1/2" Pulse meter for oil

Oval gear meter for use with oil, or antifreeze. Meters are shock proof and isolated from the fluid handled and the assembly is enclosed in a PTE molded shroud. For being connected at each pump outlet.
Inlet - Outlet: 1/2" BSP (FF).
Min. - Max. flow rate: 1 - 30 l/min.
Max. working pressure: 100 bar.
Pulses per litre: 328.



366 055

366 055, 1/2" Stainless steel pulse meter

Oval gear meter for use with windshield wash solutions, antifreeze or AdBlue®/DEF. Meters are shock proof and isolated from the fluid handled and the assembly is enclosed in a PTE molded shroud. For being connected at each pump outlet.
Inlet - Outlet: 1/2" BSP (FF).
Min. - Max. flow rate: 1 - 50 l/min.
Max. working pressure: 100 bar.
Pulses per litre: 320.



389 001

389 001 Solenoid valve

24 VDC solenoid valve for oil and antifreeze (glycol).
Inlet - Outlet: 1/2" BSP (F).
Max. working pressure: 50 bar (715 psi).

389 004 Solenoid valve

24 VDC Solenoid valve made in Stainless steel for AdBlue®/DEF or windshield wash.
Inlet-outlet 1/2" BSP (FF).
Working pressure: 10 Bar.

ADVANCED MONITORING SYSTEM 12 V



This AMS version enables to control and measure the fluid dispensed through up to 6 hose reels per MFDM-LD 12 V (PN 382 113) . It is required a 12 VDC solenoid valve and pulse meter per hose reel.

System requires a 12 V AMS access keypad (PN 381 013) and an AMM, Advance Module Memory (PN 381 600). A display included in the MFDM-LD-12 V shows the number of the corresponding hose reels when the unit is inactive, and the quantity dispensed when a transaction is being performed.

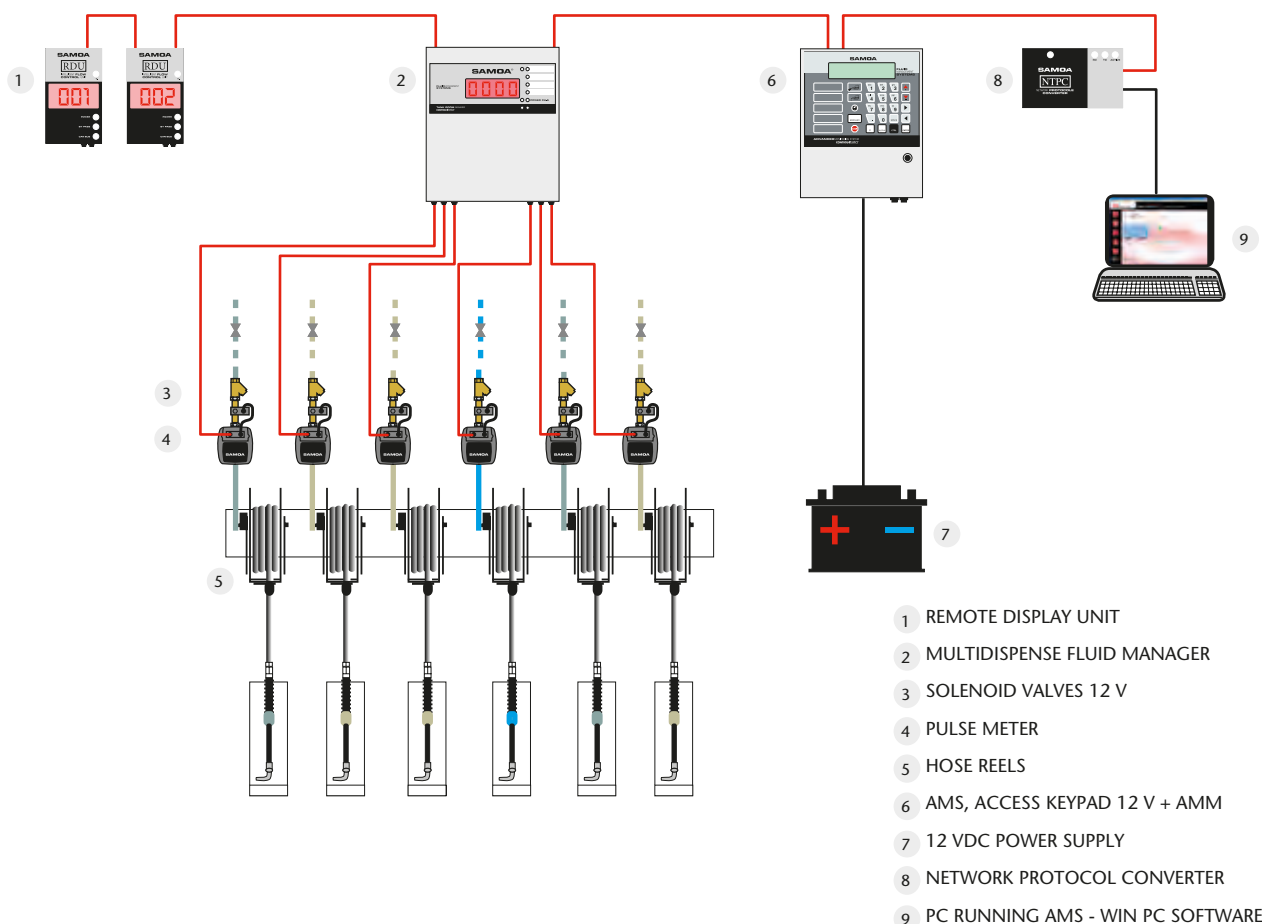
Simultaneous dispenses can be performed, but only the first one will be showed in the display (one or more RDU's can be used too). Two or more MFDM-LD 12 V can be connected to the same network.

The system can be used in vans and trucks providing 12 VDC power supply. This AMS version can be connected to a PC through a standard Samoa NTPC and any of the software version level (PN 381 351 - PN 381 352 - PN 381 353)

381 013 AMS, Access keypad with ticket printer (Voltage input: 12 VDC)

382 113 MFDM, Multi-Fluid Dispense Manager with 4 digits display (Voltage input: 12 VDC)

To be used with 12 V Access keypad (PN 381 013). Provides control to up 6 outlets.



381 030

ELECTRONIC PRESET DOSING MODULE DPS-16



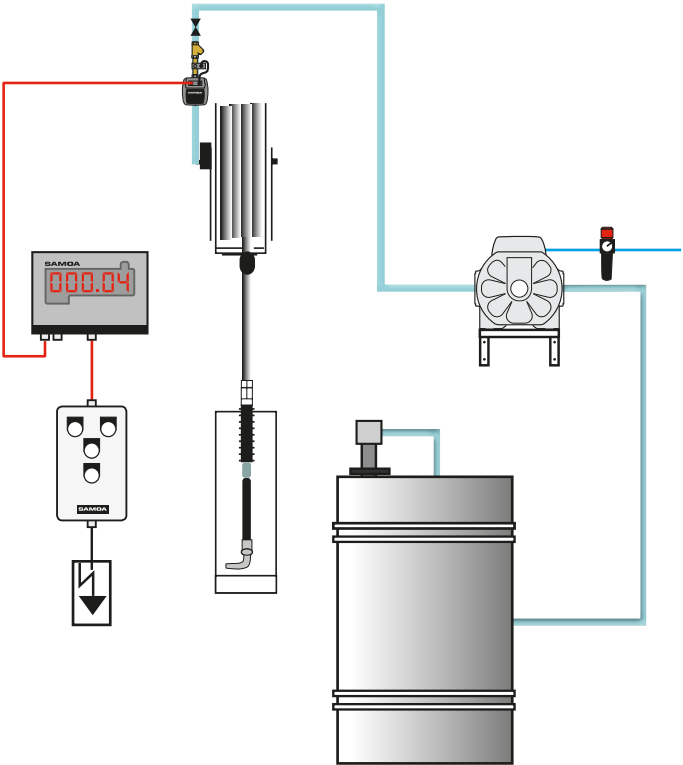
381 030 Electronic preset dosing module

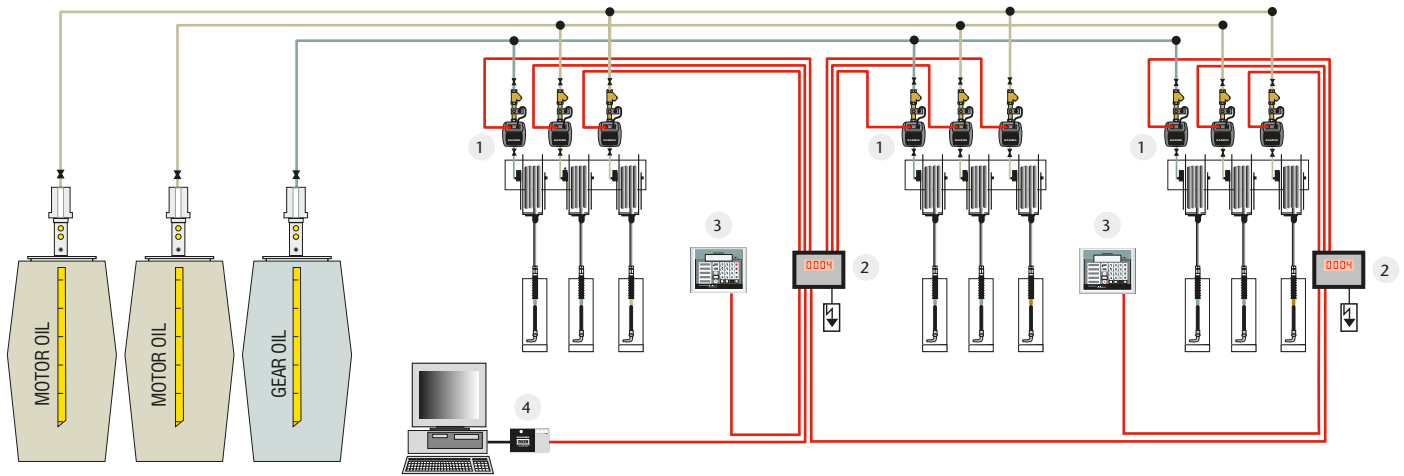
Preset dosing unit for industrial applications that helps you to accurately deliver the correct amount of fluid. It reduces the amount of key/button inputs required to obtain the required volume delivered. It can be used with a wide variety of fluids.
The module consists on a very robust, «vandal proof», button box (nickel coated brass buttons) and a remote display that shows the volume dispensed and the preset program selected. Buttons are used to select the preset program and to program the system. It can store up to 16 different pre-set volumes.

It is an open system and it can work with a wide range of fluids. It accepts any pulse meter from 1 to 6553 pulses per unit and can also work with 24 VDC solenoid valves in different sizes and materials to control the fluid delivery either by closing the fluid line or the pump air supply.

TECHNICAL SPECIFICATION	
Power supply	100 - 230 VAC 50/60 Hz
Solenoid valve output	24 VDC, max. 1 A
Pulse per unit	1 - 9999
Calibration	From buttons
Pre-set adjust	From buttons
Number of pre-sets	16
Number of decimals	0, 1, 2, 3, 4, or AUTO
Time out	4 minutes

FLUIDS HANDLED	APPLICATION
Mineral and synthetic based lubricants, grease hydraulic and transmission fluids, cutting oils antifreeze and coolant solutions, detergents, Solvents	Assembly lines in general industry Filling stations





- 1 FLOW CONTROL UNIT
(Max. 6 per Input / Output box)
- 2 INPUT/OUTPUT BOX WITH REMOTE DISPLAY
- 3 ACCESS KEYPAD
- 4 NETWORK PROTOCOL CONVERTER NTPC

Modular fluid monitoring and security system for small to medium size applications. It can be used to cover applications from a single access point keypad control system through to a multi-dispense point, multi-access, PC linked system.

SYSTEM COMPONENTS

381 060 Access keypad

Alphanumerical keypad to be mounted in the workshop allowing technician remote access to outlets / reels using numerical ID authorisation. It also allows.

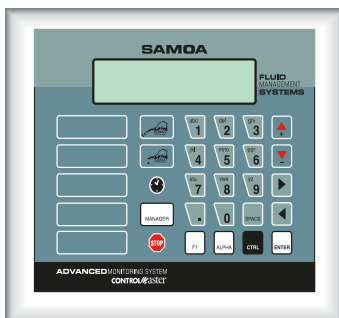
381 150 Input / output control unit

Provides control to up to 6 outlets and communication between different keypads. Several Input / Output Control Units can be used in a system whenever there are more than six outlets in the system. Includes power supply unit. Voltage input: 110 - 240 V.

381 300 Network protocol converter and software (NTPC)

The network protocol converter allows reliable communication with a PC, through a RS232 serial port connector.

The PC software delivered with the NTPC is user-friendly and it takes full advantage of the flexibility and the wide possibilities of the fluid monitoring System. This software supports both daily operations and statistical analysis, to help develop sales and increase profit. The software runs on a PC, in a WINDOWS environment and uses an ACCESS database.



380 551

PULSE METERS

366 050 In line pulse meter for oil

366 055 In line pulse meter in stainless steel for windshield wash, antifreeze or AdBlue®/DEF

SOLENOID VALVE

389 001 Solenoid valve for oil and antifreeze

389 004 Solenoid valve in stainless steel for AdBlue®/DEF or windshield wash

FLUID CONTROL UNITS

Line meter solenoid valve assembly. The line meter monitors the fluid flow and sends electronic pulses to the Input/Output unit. The solenoid valve opens and closes the hose reel selected. Meter and valve are constructed and tested to guarantee accurate and safe function.

380 501 Fluid control unit for oil and antifreeze

Includes line meter 366 050 and solenoid valve 389 001. Unit also includes Y strainer at the fluid inlet. Connection threads: 1/2" BSP (MM) with 60° cone seal. 328 pulses per litre.

380 551 Fluid control unit for windscreen washer and detergents

Includes line meter 366 055 and solenoid valve 389 001. Unit also includes Y strainer at the fluid inlet. Connection threads: 1/2" BSP (MM) with 60° cone seal. 320 pulses per litre.