

Why you should select the RYDAN TOUCH TAG SYSTEM

- Designed and built in Australia for standalone outdoor water dispensing. Customer specific customisation can be performed in Australia.
- Low initial cost, low maintenance, low ongoing operating costs.
- System maybe Prepaid, Account or both
- Ease of use. Insert the Rydan Touch Tag, water turns on, dispense desired amount of water then remove touch tag, water turns off. No manual valves, switches or buttons are required. Less to fail or be damaged.
- The filling station has a back lit LCD display to inform the user of Owner, Time and Date, prepaid remaining value, litres dispensed and cost
- All transactions are fully recorded and reported (Tag number, date/time, filling station, start value, end value, dispensed amount and value).
- The filling station holds a fifty thousand entry blacklist, automatically updated from Blacklist Database. If an attempt is made to use a blacklisted tag, the event is logged, the tag value reduced to zero and a user message displayed.
- Automatically connect via Bluetooth to local portable data transfer computer or to main office computer via *M2M* (GSM or 3G modem) through the internet to upload data and download blacklist data. Data transfer only, no phone calls. Links via preset connections only, fully secure.
- Remote top-ups are also available if required.
- Fully standalone operation (battery powered + mains or solar power), can store over one million transactions. Prepaid value is stored on the tag, blacklist is stored in filling station, no need for costly continuous connection to main databases to verify tags.
- The Site Wizard allows easy addition of extra filling stations and remote change of water cost.
- System and touch tags are encrypted to System Owner. The system may be divided into Groups to allow area control.
- Touch tags and touch tag readers are manufactured from stainless steel and polycarbonate.
- The Rydan touch tag system has been in use in extremely harsh environments for over fifteen years, with over 250,000 tags being produced.

RYDAN SYSTEM INFORMATION

The system has the following major components, with one or more of each item. Details of the component items are given in sections below.

RYDAN Touch Tag Reader/s comprises Polycarbonate readers with stainless steel heads and LED back lighting connected to a single processor board.

RYDAN processor board. This unit manages the *RYDAN* Touch Tag processes the *RYDAN* Touch Tag data to the Data Transfer System.

RYDAN Touch Tags. These units are carried in customer vehicles and are inserted into the readers for dispense transactions.

RYDAN Data Transfer Software. This software is available in either “Bluetooth” or “M2M” (3G, GSM) versions.

RYDAN Dispense Software. This software has a number of functions, which include the updating PrePaid values of *RYDAN* Touch Tags. It is normally located in the Authority’s administration offices on a computer running Windows XP, 2000 or WIN7. It is connected by USB to the *RYDAN* Encoder.

RYDAN Encoder. This box contains the necessary hardware, software and customer security codes to encode/update *RYDAN* Touch Tags. This is a secure device.

RYDAN TOUCH TAG

There has been over 250,000 *RYDAN* Touch Tags produced.

The *RYDAN* Touch Tag uses a Dallas iButton with memory. The memory is encrypted with both the customers seed set and the iButton unique serial number. Making for one of the most secure systems in the world.

The following data is recorded in the *RYDAN* Touch Tag encrypted memory;

- *RYDAN* Touch Tag serial number (from Tag ROM)
- Eight-digit sequential tag number and eight-digit card number
- Customer Number
- Group Number
- Tag Type
- Issue date
- Current Value (if PrePaid)

TECHNICAL DETAILS OF EQUIPMENT AND SOFTWARE

RYDAN Touch Tags

The *RYDAN* Touch Tags have the following features and capabilities:-

- includes a Dallas touch memory. Dallas part number DS1992L-F5
- physically are of small size 80mm x 28mm x 6mm
- are able to be easily transported (eg. in a brief case, handbag or pocket)
- has a robust case of clear polycarbonate capable of withstanding bumps, knocks, scratches and the like which will occur in normal handling.
- has a label insert printed with the number which will identify the customer and also a Logo if required.
- are internally robust to withstand handling as above without damage to the components or loss of stored data.
- are capable of withstanding, temperatures in the range -40°C to +70°C without loss of stored data
- are encoded during manufacture with a unique serial number which shall not be changeable
- are not powered by batteries, however, it contains memory backup batteries. These batteries will have a continuous service life of not less than 10 years (refer Dallas Identification Data).

RYDAN Touch Tag Reader

The Reader is a *RYDAN* Touch Tag Reader. The reader is made up of the following components:

1. Polycarbonate reader housing,
2. Stainless steel reader heads,
3. Illuminated with LED back lighting.
4. Face plate

RYDAN Touch Tag Processor

The processor has the following features and capabilities;

- each processor interfaces with a reader
- each processor interfaces with either a Bluetooth transmission board or a M2M modem.
- each processor has on board memory which contains all required setup details.
- each processor has flash memory that allows for 50,000 entry black list and 4.5 billion+ transactions.
- each processor includes a Real Time Clock with battery backup.
- the Real Time Clock is updated with every data transfer.

- the software incorporates self test diagnostic routines.

Security and Data Integrity

The integrity of account recognition data is protected to the maximum degree possible to ensure that account customers are not defrauded by manipulation of the customer account identification code held in *RYDAN* Touch Tag memory.

For the security of the customer and all Hipcliff *RYDAN* Touch Tag customers, the following measures are enforced:-

- The Dallas serial number is written during manufacture and is not changeable by any means.
- All data memory is non-volatile.
- All *RYDAN* Touch Tag data memory is encrypted with an algorithm consisting of unique seeds and the button serial number.
- If disassembled, all memory is deleted.
- The Dallas button microprocessor code is not changeable.

***RYDAN* Encoder**

The Encoder is an external Encoder, which connects to a PC via a USB cable and is powered by USB. The Encoder and the Rydan Dispense software performs the following functions:

1. Read and display the button data set out above,
2. Read and display the customer information,
3. Read and display the customer transaction history,
4. Print the customer transaction history,
5. Update and record PrePaid values.

OPTIONS

Communications

The system may be either Bluetooth operated or M2M modem. Bluetooth requires an operator to visit each standpipe when data is to be down/up loaded. The M2M system requires a M2M modem and SIM card and is fully automated. Down/up loads may be done hourly or daily.

Databases

Databases may be either MDAC or Microsoft SQL Server. Other database systems may be supplied on request.

Remote top up

Remote pre paid top ups are also available if required. This allows for customers to either ring up with credit card details, bank details or drop a check/money in without their tag. The details are entered into the system and the next time the tag is used in a standpipe, the amount paid is added to the tag.

1.1.1. Tamper

A tamper system may be added with reporting on up to 3 inputs.

SPECIFICATIONS

Processor	Motorola processor, 4Gb Flash RAM Fully designed in Australia for the Rydan Dispense System.
Real Time Clock	ICL1206 battery backed.
Watchdog	Processor watchdog. Hardware watchdog on H drive value.
Communications	Bluetooth – Bluetooth module. Communication to an approved PC or 3G data transfer via internet – M2M (machine to machine) 3G modem
Inputs	Digital input for meter. Pulse 50ms – 600s
Outputs	H drive outputs for push/pull valves. Includes electronic valve watchdog. Single drive for power on/power off valves.
Power supply	12/24 volt DC. Recommended sealed lead/acid battery with either intelligent charger or solar panel.
Display	Backlit 16x2 LCD Panel
User input	Operated by Touch Tag use only. No buttons or switches.
Data Storage	Microsoft MDAC database (Access) (Bluetooth system) Microsoft SQL Server (M2M system) Rydan Server (Using Microsoft SQL Server)
PC Software	All software is 100% MSWIN compatible. M2M Communications are via WIN Sockets
Warranty	All equipment and software has a one year warranty