plug in
Information for associates, customers, employees and friends
April 2007

MC-Multilams
the heart of
MC contacts

MC warns against product piracy
Ø 16mm plug connector with shielding
Improved Isprobe® III oscilloscope probes
MC Multilams
a highly flexible system
Multilam Technology
4 – 5

MC warns against product piracy
Solar line
6 – 7

Isprobe, new oscilloscope probe
Test & Measure line
8 – 9

AxiClamp, the new cable termination system
Power line
10

16 BV plug connector
in shielded version
4 Power line
11

CombiTac, new applications
CombiTac line
12 – 13

Emergency power infeed, fast and safe
2 Power line
14

Krivan Drag Racing Team
14

10 Years of the MC Website
15

Investment for even greater efficiency
New subsidiary in China
16

MC: Supplier of the Year
New buildings in Belgium and Singapore
17

Miscellaneous: Trade fairs all over the world
18 – 19

Catalogue order form
20

www.multi-contact.com
Dear Readers,

A high-voltage switch in a power station is routinely closed at 11 a.m. to meet the peak load. The SF6 switch moves, there is a blinding flash, a bang, smoke, silence. The emergency scenario is then put into action in order somehow to ensure that enough electric power can be fed into the grid. An analysis of the explosion shows that the contact burnt out as a result of the high switch-on current....

Hopefully an imaginary scenario, but one which shows how crucially important electrical contact elements can be.

MC invented and perfected electrical plug connectors based on Multilam® technology more than 40 years ago. Partly as a result of our high-quality contacts, dependable power supplies are available, trains run on time, the welding robots in car factories operate without a hitch, patients in intensive care are monitored by means of properly earthed systems, voltages in electrical circuits are accurately measured and the solar panels on the roof supply the required level of power.

But our Multilam® offers more than outstanding quality. As a result of its many variants, we are in an excellent position to adapt the transition resistances, plugging forces, dimensions, number of mating cycles and tolerances of the connectors to the needs of our customers and to offer them optimum solutions for their connection problems.

And since the needs of the market are becoming ever more varied, we are continually bringing new Multilams into the market. The latest development is the LAV-ET, whose new geometry allows much smaller plugging forces and a life of well over 1 million mating cycles. This enables us, for instance, to fit 26 plug contacts in a space of 5 square centimetres in our CombiTac, which can easily be plugged together by hand. Try it yourself!

Despite competition from “low cost” plug connectors that prove to be anything but “low cost” after the first time something goes wrong, and despite Chinese imitations, we are sticking firmly to our established policy and developing high-quality, dependable connectors for you.

The surge in sales and demand for our products, with an organic growth of almost 16% last year, clearly shows that our customers appreciate the importance of dependability and quality: You know that you can rely on our engineering expertise and our products today, tomorrow and the day after tomorrow.

Our team will be pleased to develop complete solutions for you: Reliable, Advanced Contact Technology

Yours truly,

Rainer Isenrich
CEO of Multi-Contact
MC-Multilams®
a highly flexible and individually adaptable system

**Cylindrical contacts**
Socket or plug with Multilam®, also for dynamic contacts (axial or rotary movement).

**Flat contacts**
Suitable for connecting to busbars, either as a push-fit connector or as a clamping unit.

**Spherical contacts**
Tolerate angular misalignments and axial movements (sliding).

**Fork contacts**
For connection to busbars in plug-in module systems.
Multilam Technology

The top Multilam® LA-CUT: the cumulation of our know-how

Functional parts:
Supporting strip of steel
Electrical conducting element of copper, silver-plated
up to 60A per louver, depending on application

Outstanding characteristics:
- Excellent electrical conductivity
- High continuous current-carrying capacity
- High short-circuit current capacity
- Accommodation of large radial tolerances
- Wide range of operation
- Accommodation of angular misalignments
- Mounting groove simple to machine
- Simple installation

The first step to your own connector
is a simple form which you can complete online and which you enter all the requirements your contact has to fulfil.

You will find the form under: www.multi-contact.com
Feedback > Online Forms > Checklist
You then send the generated pdf form, together with any supplementary information or special wishes, by e-mail to: basel@multi-contact.com

Angular misalignment up to ± 2° depending on mode of installation, diameter and plugging depth

Reference No. 6
MC warns against product piracy

Growing numbers of cheap copies of MC PV components have recently been appearing on the market. Comparative measurements and material tests reveal substantial deficiencies in quality. Visually, the copies are virtually indistinguishable from the genuine products. Multi-Contact is defending itself on the one hand by taking court action against imitators (e.g. at trade fairs) and on the other hand by increased information and hints to protect our customers from the damage likely to result from the use of inferior products.

It pays to be careful, particularly in the photovoltaic field where quality products from a reputable manufacturer also means low transition resistances which are maintained over a long period and where overheated cables – on the roof, for instance – can have dangerous consequences.

Differences in quality

A temperature increase test by the TÜV Rheinland with PV plug connectors from various manufacturers shows significant differences in the rise in temperature and the excellent results of MC-PV connectors.
How can you tell the genuine products?

Without pressure equalisation filter

Other labelling

With pressure equalisation filter

So place your trust in

- The almost 50 years of experience of Multi-Contact and the inventor of the MC-PV plug connector

- The original MC plug connectors which conform to official standards and offer long-term stability

- The robust, durable insulators

- The best louvered contact technology

For the pain from a defective product lasts longer than the pleasure of a low price.

www.multi-contact.com
Isoprobe® III, a new generation in the MC range of oscilloscope probes

HF line

High-frequency oscilloscope probes, touch-protected

1000V, CAT III (600V, CAT IV)
according to IEC / EN 61010-031

- High grade touch protection (subject to the use of appropriate oscilloscopes)
- New applications in CAT III and CAT IV environments, e.g. analysis of house and building installations with mains analysis/mains monitoring devices.
- Improved electrical characteristics: low input capacity results from a low-capacitance coaxial connecting and internal modifications to the probe.
- Isoprobe® III is initially available as a 10:1 and 100:1 version.
New oscilloscope probe production line in Essen

The advantages:

- Continuous work flow based on ergonomic principles
- Integration of tests into the production processes: Defects are recognised early and immediately eliminated.
- Increased efficiency due to cell system
- “Kanban” production control: Different batch sizes right down to one-off production are possible (Lean Manufacturing)
- Variability in staff deployment: Staff can be variably deployed in the production line at short notice according to the type of order and the size of the production run.

This modern production line is used to produce the tried and tested probes of the series Isoprobe® II, the new generation Isoprobe® III and probes made to special order.

The big advantage:
We can deliver even faster!

* Kaizen (Japanese "change for the better") is a Japanese management concept to enhance productivity developed by Taiichi Ohno.
AxiClamp the new patented cable termination system

Advantages of the new termination system:
1. No need for crimping pliers or crimping insert.
2. Lead can be disconnected, i.e. AxiClamp can be re-used if the lead is replaced.
3. With one Axi-Clamp size, wires of different cross-sections can be used.

Product lines that are already available with AxiClamp:
- 1A Powerline
- 3 Powerline
- 4A Powerline

DIN EN 61238-1 (VDE 0220 part 100), compression and mechanical connectors for power cables for rated voltages up to 30kV (Um = 36kV)

Mechanical tests:
- DIN EN 60068-2-6, environmental tests, test Fc: vibration, sinusoidal.

Test parameters:
- g-load: 10g
- Amplitude: 0.75mm
- Frequency: 10 bis 500Hz
- Time: 3x 112min
16 BV plug connector in shielded version.

The aim was to increase the reliability of a vacuum metalliser. 34 cathodes needed to be flexibly connectable from the control panel and shielded.

The new solution with the shielded, codable and lockable MC plug connection saves a great deal of setting-up work and has eliminated malfunctions due to interference between control leads.
plug in application facts

CombiTac line one for all all in one

new applications with the successful modular plug connection system CombiTac

Combination of fluids and control functions in process automation

Combination of control and power contacts in plug-in module systems
**CombiTac line**

CombiTac as a BUS connector for testing all controls and instruments in the passenger of the A380.

Reference No. 5

Combination of different test devices

www.multi-contact.com
Krivan Drag Racing Team trusts in vibration-proof MC contacts

Engine power: 3000HP
Acceleration: 0 – 100km/h in 0,94sec.
Weight: 1040kg, fuel: 100% methanol

Mc-safety flush-mounting receptacle AS6AR-S... mounted on a fuse holder insulated on one side

Emergency power infeed at the house junction box, fast and safe

80A, 600V, CAT III
10 Years of the MC Website

Since 1997 Multi-Contact has been represented on the internet with its own website. In these ten years a small-scale experiment has grown into a comprehensive website which has become indispensable for Multi-Contact, with roughly 37,000 files and many database-based web tools. At present we register roughly 1,500 visits per day.

Although the MC site is a work-oriented website, it does not renounce the use of modern, interactive graphic elements.

We are always pleased to consider your suggestions and ideas in order to ensure a continuous optimisation of our site.

Standards vs. trends

The internet is probably the most successful medium of all times, and is just as subject to fashion trends as all other areas.

The image on the left shows, for instance, how Firefox is steadily gaining importance as a browser.

As a result, the web designers are engaged in a constant effort to maintain compatibility, for the various browsers differ widely in their behaviour.

The diversity of the internet is also reflected in all kinds of different standards, and the frequent security gaps and virus attacks are countered with daily updates which inevitably affect the behaviour of the software and website, so that the spiral never stops turning.

We look forward to tackling the challenges of the future.

Ph. Michel
Investment for even greater efficiency

At the same time as an internal restructuring, at the MC headquarters a new and modern building has been integrated into the organisation. This expansion project will optimise working procedures and substantially shorten process times.

Our customers will benefit from this development, as the success of the first weeks has already shown.

Headquarters at Allschwil, Switzerland

New MC company in China

To be close to the customer has always been an important principle for MC. In keeping with that principle, we also wanted to be present in China with its booming economy. As in the case of other branches and subsidiaries we have been able to share the premises of a Stäubli branch where we can benefit from its excellent infrastructural facilities.

Multi-Contact China
c/o Stäubli Hangzhou

Training new employees and familiarising them with MC products
Hat-Trick for Multi-Contact

For the third time in succession Multi-Contact has been awarded the title of supplier of the year by Siemens PTD, Berlin. In the sector of contacts and contact systems, this distinction was based on an assessment of punctuality and quality of delivery, technology and communication. We are pleased to have received this recognition of our efforts, and shall stay “on the ball” in future.

New building in Belgium

Stäubli Benelux N.V. Division Multi-Contact has moved into a new building. A modern infrastructure and light-filled rooms ensure a pleasant working environment. The address is unchanged.

Multi-Contact Benelux
c/o Stäubli Benelux N.V.

Multi-Contact is close to you

Apart from the fact that modern communications are making the world ever smaller, Multi-Contact believes in being close to its customers. Our homepage provides details of the places where you can contact us.

New building in Singapore

Multi-Contact Southeast Asia has also moved. Here is the new address:

Multi-Contact SEA
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215 Henderson Road #01-02
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Singapore 159554
Tel. +65/626 609 00
Fax +65/626 610 66
singapore@multi-contact.com
www.multi-contact.com.sg
The crossbow, the symbol of Swiss quality work

This time not just a symbol but a quality product built by our trainee Christian Stalder.
A project carried out for the trade school on a teamwork basis (design draughtsmen and mechanics). Work input approx. 350 hours.

Here are a few highlights

Aiming device: Holopoint
Effective range: approx. 140m
Accurate range: up to 100m
Arrow velocity: approx. 370km/h
Bow material: Laminated fibreglass with core and stabilisers.
2 pulleys for increased tension
Development costs: approx. CHF 20'000.–

Stäubli and MC in a boat

To support a good cause, employees of Stäubli and MC U.K. got into a dragon boat to compete in a race against roughly 50 other company teams.
The result showed that without training the best they could manage was next to last place, but they had plenty of fun all the same. In short: an event in which everybody won.
In 2007 Multi-Contact will be present at 43 trade fairs all over the world.

We show electrical contacts

We cultivate personal contacts

Visit us

Exhibition dates

Actual dates always on our website:
www.multi-contact.com
under Sales Contact/Exhibitions
## New catalogues

<table>
<thead>
<tr>
<th>Reference No.</th>
<th>Product Line</th>
<th>Description</th>
<th>Editions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Multilam Technology</td>
<td>The Multilam® Principle</td>
<td>03.2007, 24 pages</td>
</tr>
<tr>
<td>2</td>
<td>1 Solarline</td>
<td>Connector System for Photovoltaic</td>
<td>02.2007, 32 pages</td>
</tr>
<tr>
<td>3</td>
<td>2 Solarline</td>
<td>Connector System for Photovoltaic</td>
<td>02.2007, 36 pages</td>
</tr>
<tr>
<td>4</td>
<td>CombiTacline</td>
<td>The Modular Plug Connector system</td>
<td>03.2007, 88 pages</td>
</tr>
<tr>
<td>5</td>
<td>1A Powerline</td>
<td>Round connectors and cable connectors</td>
<td>09.2006, 16 pages</td>
</tr>
<tr>
<td>6</td>
<td>Cableline</td>
<td>Cables &amp; Multistrand Wires</td>
<td>03.2007, 40 pages</td>
</tr>
<tr>
<td>7</td>
<td>L Test &amp; Measureline</td>
<td>Ø 2mm Jumper Plugs and Socket Strips</td>
<td>11.2006, 2 pages</td>
</tr>
<tr>
<td>8</td>
<td>M Test &amp; Measureline</td>
<td>Magnetic Adapters</td>
<td>08.2006, 2 pages</td>
</tr>
<tr>
<td>9</td>
<td>A HFline</td>
<td>Isoprobe® III</td>
<td>03.2007, 8 pages</td>
</tr>
</tbody>
</table>

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