METRON


REER
REER S.p.A. TORINO (Italy)
www.reer.it
METRON
MOD.
MER 752 B
P/N
80015711
S/N
061601120
Lens pitch
Number of beams
Working range
Measuring time
Power consumption
Working temperature
IN
IN

METRON

MAIN FEATURES

Light curtains for industrial and civil applications where it is necessary to detect, measure, and recognise objects.

Depending on the number and position of the beams engaged by an object, METRON can provide real time information to a PLC or PC in order to:

- • Detect the presence or absence of objects
- • Perform a count
- • Detect a position
- • Detect a shape or a profile
- • Measure dimensions

Models A equipped with 4 programmable solid state outputs.

Models B equipped with 2 programmable solid state outputs and an RS-485 serial interface.

Models C equipped with two antivalent solid state outputs.

The Metronconf Configuration software for PC, with graphic user interface, is supplied with each light curtain (models A and B only).

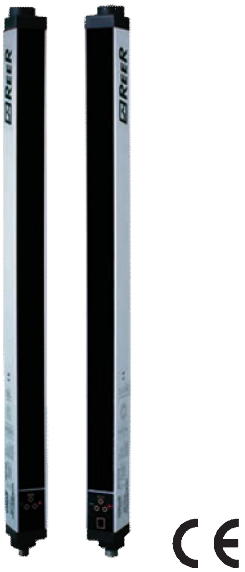
Beam spacing available from 5 mm to 75 mm.

Controlled height from 140 mm to 2525 mm.

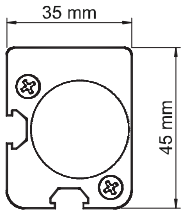
Max. range 16 m (10 mm and 30 mm models).

Connections with M12 and M16 connectors. Up to 50 m of electrical connections with unshielded cables.

Possibility of connection of up to 8 Metron B light curtains as nodes of an RS-485 serial line for simultaneous detection of multiple dimensions and complex measurements.



Cross section



THE METRON RANGE

METRON A

4 solid state outputs 0 or 24V with programmable functions

Solution providing simple on/off information related to the occurrence of the programmed conditions

Ideal for object recognition, quality control, detection of dimensional limits

METRON B

RS-485 serial line + two solid state outputs 0 or 24V with programmable functions

Solution providing complete and detailed information on the status of each beam via the RS-485 serial line and, by means of the two solid state outputs, further on/off information related to the occurrence of the programmed conditions

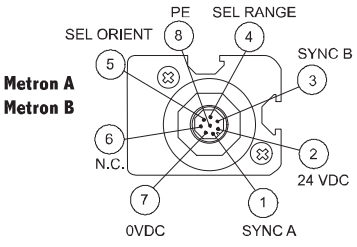
Ideal for dimensional measurement, detection of object profile and position

METRON C

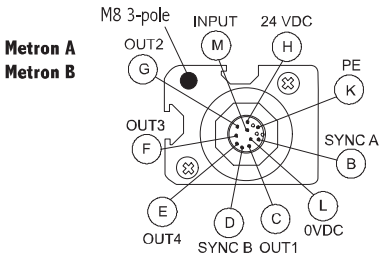
Two solid state antivalent outputs 0 or 24V without the need for programming

Solution providing simple on/off information related to the status of the controlled area

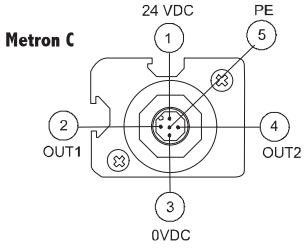
Ideal for piece counting and detection of object presence/absence in the controlled field



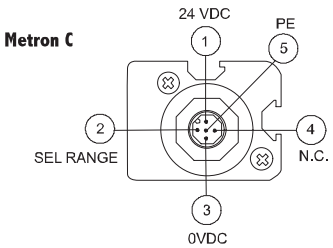
Emitter M12 8-pole



Receiver M16 12-pole



Receiver M12 5-pole



Emitter M12 5-pole

APPLICATION EXAMPLES

See Micron previous section for the application sample.

▶ See page 201

TECHNICAL FEATURES

Controlled heights (mm)		140 ... 2525
Beam spacing (mm)		5, 10, 25, 30, 50, 75
Max. range (m)		2 – for models with beam spacing 5 mm 6 - for models with beam spacing 25, 50, 75 mm 16 - for models with beam spacing 10, 30 mm
Measurement time		(2.25 ms + 70 µs x n beams) x 2
Outputs	**Metron A**	4 - solid state 0 or 24V programmable - PNP 100 mA at 24 VDC
	Metron B	RS-485 Serial line (up to 8 nodes) 2 - solid state 0 or 24V programmable - PNP 100 mA at 24 VDC
	Metron C	2 - solid state 0 or 24V antivalent - PNP 100 mA at 24 VDC
Inputs (on receiver) (Metron A and B only)		1 - digital with programmable functions - 0 or 24V
Metron A and B programming		via Metronconf configuration software
Metron A and B programming interface		RS-232 serial line
Synchronisation between emitter and receiver		Optical or via cable, selectable
Electrical connections	**Metron A and B**	1 connector M12 8-pole (emitter) 1 main connector M16 12-pole (receiver) 1 secondary connector M8 3-pole for RS-232 line for programming (receiver)
	Metron C	M12 5-pole connectors (emitter and receiver)
Signalling		7-segment display and LEDs for operating status and light curtain self-diagnosis
Power supply (VDC)		24 ± 20%
Max. length connection cables between light curtain and interface (m)		50
Operating temperature (°C)		0 ... 55
Protection rating		IP 65
Fastening mode		3: back slot, side slot, or to the top and lower end with swivel brackets
Cross-section dimensions (mm)		35 x 45

CHARACTERISTICS OF METRONCONF CONFIGURATION SOFTWARE

Possibility for on-line display on PC screen during operation (via RS-232)	Status of each individual beam and solid state outputs
Configurable parameters	Operating logic (conditions for output activation), parameters of the RS-485 serial line (transmission method, baud rate, parity, start-stop characters, binary, hex, ascii format, etc.)

METRON

MODELS

Beam spacing 5 mm	ME 150A	ME 300A	ME 450A	ME 600A	ME 750A	ME 900A	ME 1050A	ME 1200A
Ordering codes	1380500	1380501	1380502	1380503	1380504	1380505	1380506	1380507
Beam spacing 5 mm	**ME 150B**	**ME 300B**	**ME 450B**	**ME 600B**	**ME 750B**	**ME 900B**	**ME 1050B**	**ME 1200B**
Ordering codes	1380520	1380521	1380522	1380523	1380524	1380525	1380526	1380527
Beam spacing 5 mm	**ME 150C**	**ME 300C**	**ME 450B**	**ME 600B**	**ME 750B**	**ME 900B**	**ME 1050B**	**ME 1200B**
Ordering codes	1380540	1380541	1380542	1380543	1380544	1380545	1380546	1380547
Controlled height (mm)	145	295	445	595	745	895	1045	1195
Num. of beams	30	60	90	120	150	180	210	240
Overall height (mm)	261	411	561	711	861	1011	1161	1311

Beam spacing 10 mm	ME 151A	ME 301A	ME 451A	ME 601A	ME 751A	ME 901A	ME 1051A	ME 1201A	ME 1351A	ME 1501A	ME 1651A	ME 1801A	ME 1951A	ME 2101A	ME 2251A	ME 2401A
Ordering codes	1380000	1380001	1380002	1380003	1380004	1380005	1380006	1380007	1380008	1380009	1380010	1380011	1380012	1380013	1380014	1380015
Beam spacing 10 mm	**ME 151B**	**ME 301B**	**ME 451B**	**ME 601B**	**ME 751B**	**ME 901B**	**ME 1051B**	**ME 1201B**	**ME 1351B**	**ME 1501B**	**ME 1651B**	**ME 1801B**	**ME 1951B**	**ME 2101B**	**ME 2251B**	**ME 2401B**
Ordering codes	1380020	1380021	1380022	1380023	1380024	1380025	1380026	1380027	1380028	1380029	1380030	1380031	1380032	1380033	1380034	1380035
Beam spacing 10 mm	**ME 151C**	**ME 301C**	**ME 451C**	**ME 601C**	**ME 751C**	**ME 901C**	**ME 1051C**	**ME 1201C**	**ME 1351C**	**ME 1501C**	**ME 1651C**	**ME 1801C**	**ME 1951C**	**ME 2101C**	**ME 2251C**	**ME 2401C**
Ordering codes	1380040	1380041	1380042	1380043	1380044	1380045	1380046	1380047	1380048	1380049	1380050	1380051	1380052	1380053	1380054	1380055
Controlled height (mm)	140	290	440	590	740	890	1040	1190	1340	1490	1640	1790	1940	2090	2240	2390
Num. of beams	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240
Overall height(mm)	261	411	561	711	861	1011	1161	1311	1461	1611	1761	1911	2061	2211	2361	2511

Beam spacing 25 mm	ME 302A	ME 452A	ME 602A	ME 752A	ME 902A	ME 1052A	ME 1202A	ME 1352A	ME 1502A	ME 1652A	ME 1802A	ME 1952A	ME 2102A	ME 2252A	ME 2402A	ME 2552A
Ordering codes	1380101	1380102	1380103	1380104	1380105	1380106	1380107	1380108	1380109	1380110	1380111	1380112	1380113	1380114	1380115	1380116
Beam spacing 25 mm	**ME 302B**	**ME 452B**	**ME 602B**	**ME 752B**	**ME 902B**	**ME 1052B**	**ME 1202B**	**ME 1352B**	**ME 1502B**	**ME 1652B**	**ME 1802B**	**ME 1952B**	**ME 2102B**	**ME 2252B**	**ME 2402B**	**ME 2552B**
Ordering codes	1380121	1380122	1380123	1380124	1380125	1380126	1380127	1380128	1380129	1380130	1380131	1380132	1380133	1380134	1380135	1380136
Beam spacing 25 mm	**ME 302C**	**ME 452C**	**ME 602C**	**ME 752C**	**ME 902C**	**ME 1052C**	**ME 1202C**	**ME 1352C**	**ME 1502C**	**ME 1652C**	**ME 1802C**	**ME 1952C**	**ME 2102C**	**ME 2252C**	**ME 2402C**	**ME 2552C**
Ordering codes	1380141	1380142	1380143	1380144	1380145	1380146	1380147	1380148	1380149	1380150	1380151	1380152	1380153	1380154	1380155	1380156
Controlled height (mm)	275	425	575	725	875	1025	1175	1325	1475	1625	1775	1925	2075	2225	2375	2525
Num. of beams	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102
Overall height (mm)	411	561	711	861	1011	1161	1311	1461	1611	1761	1911	2061	2211	2361	2511	2661

Beam spacing 30 mm	ME 303A	ME 453A	ME 603A	ME 753A	ME 903A	ME 1053A	ME 1203A	ME 1353A	ME 1503A	ME 1653A	ME 1803A	ME 1953A	ME 2103A	ME 2253A	ME 2403A	ME 2553A
Ordering codes	1380201	1380202	1380203	1380204	1380205	1380206	1380207	1380208	1380209	1380210	1380211	1380212	1380213	1380214	1380215	1380216
Beam spacing 30 mm	**ME 303B**	**ME 453B**	**ME 603B**	**ME 753B**	**ME 903B**	**ME 1053B**	**ME 1203B**	**ME 1353B**	**ME 1503B**	**ME 1653B**	**ME 1803B**	**ME 1953B**	**ME 2103B**	**ME 2253B**	**ME 2403B**	**ME 2553B**
Ordering codes	1380221	1380222	1380223	1380224	1380225	1380226	1380227	1380228	1380229	1380230	1380231	1380232	1380233	1380234	13802235	1380236
Beam spacing 30 mm	**ME 303C**	**ME 453C**	**ME 603C**	**ME 753C**	**ME 903C**	**ME 1053C**	**ME 1203C**	**ME 1353C**	**ME 1503C**	**ME 1653C**	**ME 1803C**	**ME 1953C**	**ME 2103C**	**ME 2253C**	**ME 2403C**	**ME 2553C**
Ordering codes	1380241	1380242	1380243	1380244	1380245	1380246	1380247	1380248	1380249	1380250	1380251	1380252	1380253	1380254	1380255	1380256
Controlled height (mm)	270	420	570	720	870	1020	1170	1320	1470	1620	1770	1920	2070	2220	2370	2520
Num. of beams	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85
Overall height (mm)	411	561	711	861	1011	1161	1311	1461	1611	1761	1911	2061	2211	2361	2511	2661

Beam spacing 50 mm	ME 455A	ME 605A	ME 755A	ME 905A	ME 1055A	ME 1205A	ME 1355A	ME 1505A	ME 1655A	ME 1805A	ME 1955A	ME 2105A	ME 2255A	ME 2405A	ME 2555A
Ordering codes	1380302	1380303	1380304	1380305	1380306	1380307	1380308	1380309	1380310	1380311	1380312	1380313	1380314	1380315	1380316
Beam spacing 50 mm	**ME 455B**	**ME 605B**	**ME 755B**	**ME 905B**	**ME 1055B**	**ME 1205B**	**ME 1355B**	**ME 1505B**	**ME 1655B**	**ME 1805B**	**ME 1955B**	**ME 2105B**	**ME 2255B**	**ME 2405B**	**ME 2555B**
Ordering codes	1380322	1380323	1380324	1380325	1380326	1380327	1380328	1380329	1380330	1380331	1380332	1380333	1380334	1380335	1380336
Beam spacing 50 mm	**ME 455C**	**ME 605C**	**ME 755C**	**ME 905C**	**ME 1055C**	**ME 1205C**	**ME 1355C**	**ME 1505C**	**ME 1655C**	**ME 1805C**	**ME 1955C**	**ME 2105C**	**ME 2255C**	**ME 2405C**	**ME 2555C**
Ordering codes	1380342	1380343	1380344	1380345	1380346	1380347	1380348	1380349	1380350	1380351	1380352	1380353	1380354	1380355	1380356
Controlled height (mm)	400	550	700	850	1000	1150	1300	1450	1600	1750	1900	2050	2200	2350	2500
Num. of beams	9	12	15	18	21	24	27	30	33	36	39	42	45	48	51
Overall height (mm)	561	711	861	1011	1161	1311	1461	1611	1761	1911	2061	2211	2361	2511	2661

Beam spacing 75 mm	ME 607A	ME 757A	ME 907A	ME 1057A	ME 1207A	ME 1357A	ME 1507A	ME 1657A	ME 1807A	ME 1957A	ME 2107A	ME 2257A	ME 2407A	ME 2557A
Ordering codes	1380403	1380404	1380405	1380406	1380407	1380408	1380409	1380410	1380411	1380412	1380413	1380414	1380415	1380416
Beam spacing 75 mm	**ME 607B**	**ME 757B**	**ME 907B**	**ME 1057B**	**ME 1207B**	**ME 1357B**	**ME 1507B**	**ME 1657B**	**ME 1657B**	**ME 1957B**	**ME 2107B**	**ME 2257B**	**ME 2407B**	**ME 2557B**
Ordering codes	1380423	1380424	1380425	1380426	1380427	1380428	1380429	1380430	1380431	1380432	1380433	1380434	1380435	1380436
Beam spacing 75 mm	**ME 607C**	**ME 757C**	**ME 907C**	**ME 1057C**	**ME 1207C**	**ME 1357C**	**ME 1507C**	**ME 1657C**	**ME 1657C**	**ME 1957C**	**ME 2107C**	**ME 2257C**	**ME 2407C**	**ME 2557C**
Ordering codes	1380443	1380444	1380445	1380446	1380447	1380448	1380449	1380450	1380451	1380452	1380453	1380454	1380455	1380456
Controlled height (mm)	525	675	825	975	1125	1275	1425	1575	1725	1875	2025	2175	2325	2475
Num. of beams	8	10	12	14	16	18	20	22	24	26	28	30	32	34
Overall height (mm)	711	861	1011	1161	1311	1461	1611	1761	1911	2061	2211	2361	2511	2661

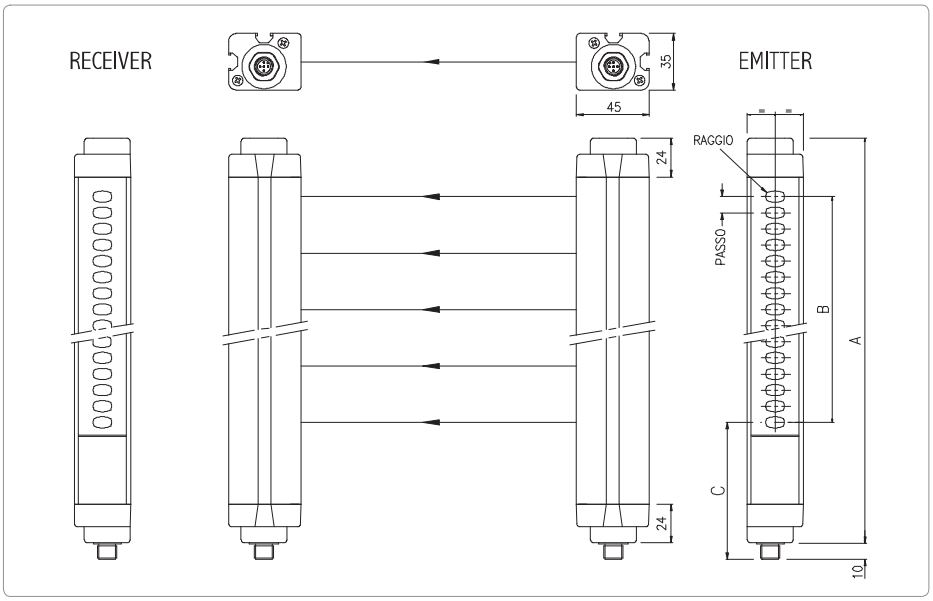
► **"ACCESSORIES" on page 217**

WARNING!

When the light curtain works in the presence of strong vibrations (presses, weaving machines etc.), in order to avoid damages to the light curtain it is necessary to use the vibration dampers SAV (available as accessories)
When long range protections or perimeter protections employing mirrors have to be realised it is advisable to use the LAD 2 laser pointer as an alignment aid, as well as the adjustable swivel fastening brackets SFB.

METRON

DIMENSION (mm)



Model ME	150	300	450	600	750	900	1050	1200
A	251	401	551	701	851	1001	1151	1301
B (controlled height)	B = (number of beams -1) x beam spacing (with cable synchronisation) B = (number of beams -2) x beam spacing (with optical synchronisation)*							
C (1st beam position)	85 (for 10, 30 models) - 93 (for 25, 50, 75 models)							
Mounting	Complete set of 4 LS type brackets included in the package							

Model ME	1350	1500	1650	1800	1950	2100	2250	2400	2550
A	1451	1601	1751	1901	2051	2201	2351	2501	2651
B (controlled height)	B = (number of beams -1) x beam spacing (with cable synchronisation) B = (number of beams -2) x beam spacing (with optical synchronisation)*								
C (1st beam position)	85 (for 10 - 30 models) - 93 (for 25–50-75 models)								
Mounting	Complete set of 6 LS type brackets included in the package								

* In the case of optical synchronism, the beam adjacent to the upper end cap cannot be used for measurement, as it constitutes the synchronism beam.

ORDERING INFORMATION

In addition to the height and beam spacing, to uniquely define a Metron light curtain the model must also be indicated A, B or C:

Models A	4 outputs with programmable functions (e.g.: ME 1801 A)
Models B	RS-485 serial line + 2 solid state outputs 0 or 24V with programmable functions (e.g.: ME 1801 B)
Models C	2 solid state outputs 0 or 24V antivalent (without the need for programming) (e.g.: ME 1801 C)

Each type of Metron light curtain includes:

- Emitter and Receiver pair
- Mounting brackets and T-nuts
- CD-ROM containing the "Metronconf" programming software and the multi-language instruction manual

ACCESSORIES

For Metron light curtains the following accessories, to be ordered separately, are available:	
FMC floor mounting columns	▶ See page 220
SP deflection mirrors	▶ See page 223
LAD laser alignment device	▶ See page 224
SAV vibrations dampers	▶ See page 225
SFB swivel fixing brackets	▶ See page 226
Connectors	▶ See list hereunder:

CONNECTORS METRON A and B emitters

Model	Code	Description
C8D 5	1330980	M12 straight connector, 8 poles, pre-wired cable 5 m
C8D 10	1330981	M12 straight connector, 8 poles, pre-wired cable 10 m
C8D 15	1330982	M12 straight connector, 8 poles, pre-wired cable 15 m
C8D 25	1330967	M12 straight connector, 8 poles, pre-wired cable 25 m
C8D 40	1440966	M12 straight connector, 8 poles, pre-wired cable 40 m
C8D 95	1330983	M12 90° angle connector, 8 poles, pre-wired cable 5 m
C8D 910	1330984	M12 90° angle connector, 8 poles, pre-wired cable 10 m
C8D 915	1330985	M12 90° angle connector, 8 poles, pre-wired cable 15 m
C8DM 9	1330986	M12 straight connector, 8 poles with screw terminal, PG9 cable gland
C8DM 99	1330987	M12 angle connector, 8 poles with screw terminal, PG9 cable gland
C8DM 11	1330978	M12 straight connector, 8 poles with screw terminal, PG9/11 cable gland
C8DM 911	1330979	M12 angle connector, 8 poles with screw terminal, PG9/11 cable gland

CONNECTORS METRON A and B receivers

Model	Code	Description
C12D 3	1330991	M16 straight connector, 12 poles, pre-wired cable 3 m
C12D 5	1330992	M16 straight connector, 12 poles, pre-wired cable 5 m
C12D 10	1330993	M16 straight connector, 12 poles, pre-wired cable 10 m
C12D 15	1330996	M16 straight connector, 12 poles, pre-wired cable 15 m
C12D 25	1330948	M16 straight connector, 12 poles, pre-wired cable 25 m
CSL 3	1330994	3 meters cable, for connecting light curtain and PC for system configuration, equipped with one M8 3-pole connector and one DB9 connector

CONNECTORS METRON C emitters and receivers

Model	Code	Description
CD 5	1330950	M12 straight connector, 5 poles, pre-wired cable 5 m
CD 10	1330956	M12 straight connector, 5 poles, pre-wired cable 10 m
CD 15	1330952	M12 straight connector, 5 poles, pre-wired cable 15 m
CD 20	1330957	M12 straight connector, 5 poles, pre-wired cable 20 m
CD 25	1330949	M12 straight connector, 5 poles, pre-wired cable 25 m
CD 50	1330965	M12 straight connector, 5 poles, pre-wired cable 50 m
CD 95	1330951	M12 90° angle connector, 5 poles, pre-wired cable 5 m
CD 910	1330958	M12 90° angle connector, 5 poles, pre-wired cable 10 m
CD 915	1330953	M12 90° angle connector, 5 poles, pre-wired cable 15 m
CDM 9	1330954	M12 straight connector, 5 poles with screw terminal, PG9 cable gland
CDM 99	1330955	M12 angle connector, 5 poles with screw terminal, PG9 cable gland